

Field Book
of
Willis Linn Jepson

1936

If lost, finder please return
to me at Department of Botany,
University of California,
Berkeley, Calif. and receive reward.

Merced River bridge near Snelling,
May 6, 1936.

1

from Edendale (cf. p. 195, vol. 55)
I drive north, continue north to
the Merced River where at the
bridge on the south side I
collect nos. 17,277 to 17,280. I
cross the bridge and proceed
somewhat ^{northerly and} easterly over the
broad "river bottom", the first
flood-plain terrace, with fine
groves of *Quercus lobata* here
and there - rich bottom farming
land with many ranches. Thus
I come to the village of Snelling,
still reminiscent of its early
day mining period. Once it was
the county seat of Merced County.
The quaint little two-story county
court-house still stands, the
jail in the first story in the
rear. A monument commemor-
ates the early day history,

2

Dry hills n. of Snelling, May 6, 1936.
Merced Co.

standing by the side of the village street. A few lovely vine-embowered cottages grace the place.

I drive east, perhaps ^(90 of) a mile, then turn north on the Snelling-La Grange road and soon I am out of the river bottom with its trees, green grass and luxuriant vegetation into the dry hilled hills. I mount a little summit and find here a fine outlook over the low rolling hill country, east to the foothills and high up to snow fields of the main Sierra Nevada range. Here I stop to have luncheon. This spot I describe on p. 198, vol. 55, ante. Here I collect nos. 17, 281 to 17, 284. I drive on north and stop to collect at Dry Creek (some running water in it now) as follows:

3

Dry Creek, $3\frac{1}{2}$ mi. n. of Snelling,
Merced Co., 6 May, 1936.

✓ No. 17, 520. *Mimulus guttatus* DC.

Sandy creek bed moist

spot.

✓ No. 17, 521. *Raphanus raphanistrum* L.

This mustard grows very rankly on the creek bank in deep rich soil, 3 to 4 ft. h. Petals bright yellow or pale yellow, lavender-brown-veined or dark purple-veined

I drive on north through the hills to La Grange, a solitary country but highly interesting. Here I cross the Tuolumne River and run north easterly through the hills to Cooperstown - a faded hamlet of old days. Southerly ^(before reaching) from Cooperstown I stop to botanize near an old stone corral (much in ruins) with a mighty fallen *Quercus lobata* tree lying prone in it. Here I collect:

4 Old Stone Corral in flat southerly from
Cooperstown, Stanislaus Co., 6 May '36

✓ No. 17, 522. *Baeria*

In old stone corral.

✓ No. 17, 523.

This grass grew in
the moist flat.

✓ No. 17, 524. *Baeria*

Moist flat.

✓ No. 17, 525. *Urtica* *urens* L

In old corral.

- *Pogogyne*

See no. 17, 537.

- I run westerly and come to the dry
Creek School near Warnerville:
16 May, 1936.

✓ No. 17, 526. *Veronica peregrina* L. var.
xalapensis St. J. & W. Low wet land.

✓ No. 17, 527. *Dioscorea calif-*
ornicum Torr. Margins of watery
swamp.

✓ No. 17, 528. *Downingia*

See description of
flower, details of corolla in vol. 35,
p. 200. Wet margin of swamp.

Cooperstown to Oakdale, May 6, '36. 5

- I drive westerly through the low rolling
foothill country, for many miles on one of
these east-west roads that runs on
without a bend in it for long long
distances - a lonely road in wide
unsettled country, on which I did not
meet a person or vehicle. Follow-
ing the section lines this road
runs right over the top of a round
hill that the detour of which would
be only sixty yards off - a rather
steep hill. But in early days
they just went straight regardless
of the poor horses. I come out
at Oakdale, stop over night at the
Yosemite Hotel (clean rooms with spot-
less linen and good beds, \$1.50)
and the next morning take the
road towards Escalon. About 1 mi.
n. of Oakdale I stop at Adels sta.
and collect in a wet spot the
following:

6

Adela, 1 mi. n. of Oakdale, May 7, 1936

Stanislaus Co.

No. 17, 529. *Marsilea*

Shallow pool.

No. 17, 530. *Lasthenia glaberrima* DC.Stems very much decumbent
and rooting at the nodes!The decumbent rooting portion may
be longer than the ascending
leafy portion!

No. 17, 531.

This grass grew in the
shallow pool. (bed of a former)No. 17, 532. *Trifolium Wormskieldii* Lehm.

Moist spot.

No. 17, 533. *Trifolium variegatum* Nutt.var. *variegatum* Moist spot.No. 17, 534. *Cyperus*

Moist spot.

No. 17, 535. *Trifolium hybridum* L.

Low spot in field.

No. 17, 536. *Plagiobothrys canescens*

Bth.

Dry sandy
spot.

Oakdale to Berkeley, May 7, '36. 7

The last three numbers, 17, 534 to 17, 536,
were collected about 1 mi. w. of Adela.Drove on into Berkeley via Livermore,
reaching home at 12:00 o'clock.No. 17, 537. *Pogogyne zizyphor-*
oides Bth. Old stone corral in flat southerly
from May 6, 1936. cf. p. 4.

Cooperstown, Stanislaus Co.

No. 17, 538-17, 539. not used.

— *Marrubium vulgare* L. Oakdale.— Private Herbaria. Victor Duran, cf.
Univ. Cal. Publ. Bot. 16: 379.Robert Darrow, aut. prof. botany in
Univ. Arizona. cf. label of *Penste-*
mon pseudospectabilis Jones in
Hb. U. C.

Berkeley, May, 1936.

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- Prof. J. T. Buchholz came in to call. He is at the Univ. of Illinois and spoke of Trelease. Buchholz is working on the anatomy and especially the embryology of Coniferae and is now engaged upon Sequoia. He has been at the Grant Grove this spring in order to get material in proper stage of *Sequoia gigantea*. He came to my laboratory May 14. A dark heavy-set man with large features and broad round face and thick dark hair. He is on sabbatical leave.

- E. D. Merrill just in to call. He says: "that the reorganization of the various (eight in number) departments of Botany in Harvard University is going to be a slow matter. It will take money in order to have a building suitable to bring together the three herbaria - Gray, Barlow, Arnold, and their three libraries. Ten thousand dollars a year can be saved in duplications by bringing together the three libraries. The Arnold Arboretum received more in gifts from 1930-1935 than the total endowment of the Gray Herbarium. Some woman in San Francisco gave the Arnold Arboretum \$200,000 or (perhaps he said \$100,000). It is likely she walked through the Arboretum and liked it. When I was last at the Arboretum a few days ago it was lilac time: there were 340* named kinds of lilacs in bloom. People care for such things - the living plant. They care not at all for an herbarium. It is rarely the general public gives to an herbarium - and yet the dried plant

Berkeley, May, 1936

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* a large number; not sure of exact fig.

Berkeley, May, 1936.

scientifically is more than the living plant. M. A. Howe is getting along very well at the New York Botanical Gardens. He delays decisions a little too long, but matters have moved very well there. He is feeling the strain, as it is a heavy job for him to take on at his age. I am still on the Board of Managers of the Garden and go down to New York frequently to finish up jobs of work which I left there. I leave here Saturday night for Harvard, since I must be back for three doctor's degree examinations. My job there, however, is quite free from — May 21, 1936. A further note on Merrill's visit here, and the reasons for it: cf. my private journal, "Men and Manners", vol. 10, p. 45.

Adams-Ever Ridge, Howell Mt., May 28, 1936.
Napa Co. 11

✓ No. 17,540. *Stipa lepida* Hitchc. var. ~~*Stipa lepida* (Wats.) Hitchc.~~
(det. B. Crampton, 7/76) This grass grows in somewhat open woods in colonies in rich soil. The culms spread from the tufted base. The tufted base is rather heavy. Perennial.

✓ No. 17,541. *Bromus laevipes* Shear
(det. Beecher Crampton, 7/76) Open woods; good soil; scattered stools; tufts rather small, that is few (one, two or three) culms in a tuft. Culms erect or nearly. Perennial.

✓ No. 17,542. *Elymus glaucus* Buckl. var. ~~*Elymus glaucus* (Wats.) J. Gray~~
(det. B. Crampton, 7/76) Small ^{stools} stools with 1 or few culms; scattered; culms to 4 ft. h. Perennial. Good soil. Open woods. Culms from definite but short root-stocks which produce terminally a new bud that gives rise to the new culm for the season each successive year.

✓ No. 17,543. *Festuca californica* Vasey
(det. Beecher Crampton, 7/76) Good soil; open woods; very very

Adam-and-Eve Ridge, Howell Mt., May 28.

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heavy stools, densely tufted, leaves long, slender, scabrous margined; colonies.

Tall; 4 ft.

No. 17,544. Stipa lepida Hitchc. ~~var~~ andersonii (Vasey) Hitchc. (det. C. Crampton, 7/76) This grass grows under *Arctostaphylos manzanita*. Is probably the same as 17,540. Has same habit.

No. 17,545. Bromus laevipes Shear (det. Beecher Crampton, 7/76) This grass grows under

Arctostaphylos - *Aureus Douglasii* woods; stools scattered, 1 culm to a stool (or sometimes 2).

— Left Berkeley at 3:00 o'clock and drove to the St. Helena Sanitarium, arriving about 5:00, on May 27. Today, May 28, I walked over the little hill back of the Sanitarium. cf. p. 11.

Adam-and-Eve Ridge, Howell Mt., May 29, 1936

Napa Co 13

No. 17,546. Cirsium

This thistle grows in the open woods on a rocky slope; 5 ft. h. fls. crimson. Heads markedly cylindrical though a little contracted under in: slightly under the middle. Erect; few erect branches.

No. 17,547. Calycanthus occidentalis H. & A. at "the Cave", in limestone rocks

No. 17,548. Helianthella californica

Notice the few pairs of opposite leaves, the long internodes. In dense chaparral.

No. 17,549. Madia filipes exigua (Pm.) Gray extremely rocky terrain, where almost no soil, on chaparral slope.

No. 17,550. Filago californica

This umbelliferous plant is doubtless a dwarf state, due to the extremely rocky terrain of the chap-

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aral slope. After maturity and release of the fruits from the head, the 5 bracts of the involucre spread rotately with 5 membranous scales imposed upon them. The bracts and the scales narrow ovate-acuminate.

No. 17, 551.

Dwarfing of this umbellifer is due to the rocky terrain (chaparral slope).

No. 17, 552. *Pityrogramma triangularis* (Kaulf.) Maxon var. *triangularis*
This fern grows under the edges of rocks on an extremely rocky terrain where there is little or almost no soil, little or no shade. In the heat of summer an excessively arid spot; at present a little moisture evident.

No. 17, 553. *Dudleya caespitosa* Eschverria

Edges of rocks, rocky chaparral terrain. ^{flat} Stems, bracts,

May 29, 1936.

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branches of inflorescences pinkish. Calyx a bit pinkish. Corolla saffron-yellow. Petals distinctly united at base (for about $\frac{3}{4}$ line), markedly keeled, oblong, acute.

No. 17, 554. *Eriophyllum*
dry rocky chaparral slope.

St. Helena, May 30, 1936

No. 17, 555. *Medicago sativa* L.
This grows by the roadside in a place where it must be regarded as spontaneous; and not a relic from cultivation or originating from seed on the edge of alfalfa fields, the fields on both sides being old-time vineyards. The seed could have come in by wind, by birds, or perhaps most likely from loads of alfalfa hauled along the highways. The point of this note is that one seldom sees alfalfa growing in

in a place where it seems truly spontaneous or as having established a real colony truly "on its own". Usually the plant, as occurring in California, is seen in cultivated fields where it is a crop or along the borders of such fields where it is adventitious from cultivation, or where it has persisted as scattered individuals after crop culture by man has ceased. I have yet to see an aggressive colony of it, in the wild, even on a small scale.

No. 17,556. *Rorippa*

Wet hollow, the stems decumbent (ascending or erect only at the end).

No. 17,557. *Polypogon monspeliensis* (L.)
(det. Beecher Compton. 7/76) ^{Det.}

This common grass is frequent in low wet places.

No. 17,558.

Stems fleshy, mostly with few

small branches to the main stem, erect. It forms pure colonies 1 to 2 or 3 feet across - many of them in the low wet hollows.

No. 17,559. *Eleocharis*

It forms pure colonies 5 to 15 or 20 ft. across in low wet hollows.

No. 17,560. *Carex barbata*?

Colonies 10 to 30 ft. across in low wet places. Stems heavy, dense; leaves long, many. Culms strictly erect!

No. 17,561. *Dipsacus*

Teratological states, the heads produced into leafy shoots or ending terminally, at apex, in a supplementary head.

No. 17,562. *Dipsacus*

Basal leaves of first year plants

No. 17,563. *Dipsacus*

The stem at its middle, about branches into 3, that is two axillary branches and the main central

Rutherford, Napa Valley, May 30, '36

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branch, all arising from the cupped opposite leaf-pair. These "cups", this morning are full of water from yesterday's rain.

No. 17,564. *Carex*

It forms heavy circular stools, very leafy, the culms not many. Culms ascending or spreading, not erect as in 17,560.

Howell Mt., May 31, 1936

No. 17,564a. *Gnindelia*

Stems, several from the perennial base. Some of the heads taken separately have ^{few on} long tubes to the ray corollae, tubes which spread conspicuously from the level of the head. The usual form has the rays arising, as it were, from the level of the head.

These peculiar heads are found on the same plant as normal heads. One sheet consists of basal

Howell Mt., Napa Range, May 31, 1936.

Napa Co.

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and sub-basal leaves. Collected near the Sanitarium.

No. 17,565. *Gnaphalium*

At the "hair-pin" turn of the road betw. Sanitarium and Four Corners; in the chamisal. The panicles are commonly compact as in the folders taken. The stem, which is always simple and usually one from the base, may, however, branch freely and somewhat loosely at top into a loose panicle 8 to 16 inches high. Rocky terrain.

No. 17,566. *Pentstemon*

Stems spreading or ascending, that is, almost horizontally spreading. Loamy bank. Cor. blue-purple. Howell Mt., betw. Island House and Angwin.

No. 17,567. *Bromus laevipes* Shear
(det. Beecher (Crompton, 1176))

(tall) This grass forms close erect culms from a comparatively small stool. Perennial and pro-

during stolons. I do not, however, notice any last year's remnant culms. Could it be biennial? Open woods

✓ No. 17, 568.

This grass is in open woods. Its culms spread rather widely and its habit is, therefore, markedly different from No. 17, 567 in respect to pose of the culms. Remnants of last year's culms persist on the rootstock; cf. No. 17, 567.

✓ No. 17, 569. *Oenothera*.

On a "burn" or clearing of the chaparral, La Jota plateau, betw Toland House and Angwin.

✓ No. 17, 570. *Convolvulus luteolus* Gray. With 17, 569.

✓ No. 17, 571. *Madia filipes exigua* (Sm.) Gray. With 17, 569.

✓ No. 17, 572. *Senecio*

With 17, 569.

✓ No. 17, 573. *Eriophyllum lanatum* Open woods, La Jota.

May 31, 1936.

✓ No. 17, 574. *Microseris linearifolia*. With 17, 569.
 ✓ No. 17, 575. *Stachys rigida* ssp. *quercetorum* ^{ajugoides Bth.}
 intergrade to var. *quercetorum* Hal. In the half-shade

this grew rankly and formed distinct colonies. ^{"a" folder.} in the open of the "burn" (cf. 17, 569). the plants are smaller.*

✓ No. 17, 576. *Melica torreyana* Scribn.

(det. Beecher (Crampton, 7/76))

This grass forms very dense compact strictly erect close stools - very dense and heavy. The 3 specimens taken show only a part of the one stool.

— *Anthemis cotula*.

Between the

Sanitarium and the crest east, there is on the upper side of the road a pasture. The ground had been "worked" a bit when wet by the feet of cattle and there is now a fair stand of dog fennel all over it.

* i.e., less tall. cf. folder "b."

No. 17,577. *Juncus*

This rush forms dense heavy stools in dense colonies. The "culms" and infl. are not however conspicuous — that is the infl. is not raised high above the general level of the stems not flower-bearing. Low flat.

Notice the extremely dark rich green of the stems, the long lighter-colored sheaths. Stems quite unequal in height.

No. 17,578. *Juncus effusus*

This rush forms compact very erect, very dense, very strict stools — a heavy rush — forming large clusters in low flats, the stems much of a height. Stems bright green, light-color!! at base above the dark-brown sheaths.

No. 17,579. *Juncus*

Small stools scattered through the grass over the flat, not forming colonies.

No. 17,590. *Carex*

17,590a *Bromus japonicus* Thunb. Low moist flat.

No. 17,591. *Bromus japonicus* Thunb.

(det. B. Crampton, 7/22)

This grass tends to be gregarious on the flat. Annual.

No. 17,592. *Briza minor* L.

(det. B. Crampton, 7/22)

Rather common on the flat.

No. 17,593. *Heterocodon rariiflorum*

Nutt.

Low moist spot.

No. 17,594. *Danthonia californica* Boland.

(det. B. Crampton, 7/22)

Plants forming small circular tufts about 8-12 in. across the culms wide spreading or ascending, few from the leafy base. The tuft or circle is leafy at the ground, the culms little leafy or with scattered reduced blades. Dry flat. Perennial.

No. 17,595. *Helianthella californica*

In the brush near Four Corners, 250 yds. below.

Howell Mt., Napa Range, June 1, 1936.

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No. 17,596. *Rhododendron occidentale* Gray.

In the swale below Four Corners, a rounded clump of stems ^{is} 7 feet high and 10 x 12 feet, covered all over at this time with flowers, so that a remarkable mass of bloom adorns the little flat.

No. 17,597.

This galioid plant, an obscure denizen of the flat, is frequent.

No. 17,598. *Madia sativa* Molina

Stems quite simple. dry flat.

No. 17,599. *Phacelia imbricata* Greene.

Open woods. Sanitarium.

Base woody for 2 or 3 inches, thus furnishing a "candel" for next year's shoots.

No. 17,600. *Eriophyllum lanatum*

Open woods. Sanitarium.

Pratt Valley, St. Helena, June 2, 1936.

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No. 17,601. *Chrysanthemum parthenium*

This garden companion is across the road from a dwelling, but in a fairly wild spot. It is well established.

No. 17,602. *Cyperus eragrostis*

(Det. Beecher Crampton, 7/77)

Margins of a spring.

St. Helena, June 2, 1936.

(Banks of Napa River, near bridge on road to Sanitarium).

No. 17,603.

This umbellifer grows in the margin of thickets.

No. 17,604. *Vitis californica* Bth.

No. 17,605. *Sonchus oleraceus*

No. 17,606. *Silybum marianum**

No. 17,607. *Verbascum*

* The small plants less lobed leaves of sheet "b" are from the lower axils of the large very undulate-margined leaves.

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Hills to east of Yountville, Napa Valley, on east side road, June 2, 1936

No. 17,608. *Beckmannia syzigachne* (Steud.) Fern. ^{Napa Co.}
This grass is in a quite

wild place (in the sense of being uncultivated), a wild strip along the roadway.

No. 17,609. *Boissduvalia glabella* (Nutt.) Walp.

This Onagraceous plant is in fruit; low spot or hollow, winter pool formerly.

No. 17,610. *Lolium multiflorum* Lam.
(det. B. Crampton, 7/77)

dry hillside.

No. 17,611. *Agoseris grandiflora*
dry hilltop.No. 17,612. *Plantago*
Hilltop swale, moist in winter.No. 17,613. *Oxalis*
dry hilltop.No. 17,614. *Pilago gallica*
Inuloid plant on dry hilltopNo. 17,615. *Spergularia villosa* (Pers.) Camb.

Cordelia, Solano Co., June 14, 1936

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- Drove to Yaca Valley from Berkeley.

No. 17,616. *Pieris echinoides* L.
Cordelia. Valley flats.No. 17,617. *Centaurea*
Cordelia. Valley flats.No. 17,618. *Medicago sativa* L.

This is on the valley flat in a place where it cannot be a relict from cultivated fields of alfalfa. The seed doubtless came from being shattered out by passing loads of alfalfa hay - passing along country lanes. Cordelia

No. 17,619. *Elymus triticoides* Buckl.
(det. B. Crampton, 7/77)

This grass forms dense pure colonies 6 to 12 feet broad on the valley flats in loam soil. It is not frequent. Cordelia.

No. 17,620. *Lolium multiflorum* Lam.
(det. B. Crampton, July 1977)No. 17,620a. *Lolium multiflorum* Lam. Cordelia.
(det. B. Crampton, 1977)

Cordelia, Solano Co., June 14, '36.

No. 17, 621. *Hordeum brachyantherum* Nevski-
(det. B. Crampton, 1936)
This grass grows in the
salt marsh by the old hotel at
Cordelia.

No. 17, 622. *Distichlis spicata* (L.) Greene
(det. Beecher Crampton, July 1, 1937)

This grass is a true
salt marsh grass, forming pure
and very dense colonies. It is
a rather low-growing grass and
has the effect, a little, of a
lawn, but of course much
looser.

No. 17, 623. *Eriogonum parvifolium*
Cordelia. Salt marsh.

Little Oak, Vaca Valley, 6-14-'36.

No. 17, 624. *Glycyrrhiza lepidota*
A weed in the orchard. Bush

No. 17, 625. *Asclepias speciosa* Torr.

This colony, 8 feet across,
in the orchard, goes back for fifty
years to my remembrance - and
doubtless back of that another

Little Oak, Vacaville, June 14, 1936.

thirty or thirty-five years to a time
when the orchard had not been
plowed - when the land was and
had been "primitiv" for ages.

No. 17, 626. ^(discarded) *Persea grandis* L.

Cult. With very beautiful rose-
pink blossoms. Bush planted
c. 1870, but has suffered from
fire several times. Little Oak
ranch.

Berkeley, June 17, 1936.

No. 17, 627.

This mallow is a weed
in lawns on the University Cam-
pus. Collected near the old Doctor
Cedars sw. of Hailand Hall.

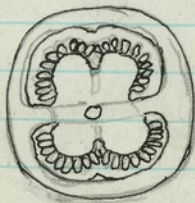
near
Rutherford St. ^(P. 37) *St. Helena*, Napa Valley, June 29,
1936.

No. 17, 628. *Eucalyptus viminalis* Labill.

A very splendid individual with
white trunk on valley floor, in front of
house, edge of road, Mrs. D. G. Freyermuth.
see p. 37.

No. 17,629. *Campsis radicans* Seem.

<sup>from
Gibson
to K.H.</sup> This climber is in fine flower just now, climbing a tree* to a height of 30 ft., and making a rare display. Cor. dark salmon-red; stamens 4, the 2 lower the longer of the two pairs. Stigmas 2, large, anterior and posterior.

Cross-section,
horizontal, of ovary.

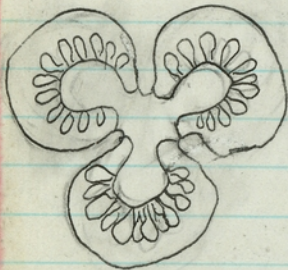
— *Anthemiscotula* In a hillside field above the Sanitarium I noted May 30 a heavy stand of Dog Fennel. It is a cleared field which had been pastured heavily and hence seemed a fit or characteristic place for this species.

* *Washingtonia filifera* Wendl.

No. 17,630. *Heterocodon rariflorum* Nutt.

This campanulaceous plant grows in a moist open swale (on the edge of brush) below Four Corners. The style has 3 whitish stigmas. The stamens are a little over half the length of the ^{white} style. They are inserted on the calyx at its very base and not on the corolla. The cor. is purplish-blue; each lobe is 3-nerved. Ovary and capsule strongly 3-lobed. The "Man" says "3-angled". In a sense they are; really they are neither 3-angled or 3-lobed but with 3 hollowings or excavations on the sides spaced equally around the circle. At very apex of capsule, inside the persistent calyx border is a 5-lobed ^{small} protuberance. This structure has, perhaps, never been noticed in the

Cont. from p. 31.



a.

*Heterocodon rari-
florum* Nutt.

horiz. x-sect. capsule

books. The ovary (or capsule) in horizontal cross-section shows as more deeply lobed than it appears in superficial view, - by far. Cont. p. 34.

No. 17,631. *Navaretia intertexta* Hook.
Meadow, semi-moist.

No. 17,632. *Aspiranthes*

This orchid grows in the lower more recently moist part of the meadow.

No. 17,633. *Gastroidium ventricosum* (Gouan)
Schinz. & Thell.

This grass grows in lower part of meadow.

No. 17,634. *Brodiaea*
(Cont. p. 32). With 17,632. *Stemmodia*
narrow, notched at apex, a little
involute, closely approximate around
anthers (which are approximate in
center), but a little longer than
the anthers. Ribs of perianth-tube prolonged
through the per-lobes, as green prominently subulate
ribs.

No. 17,635. *Clarkia ^{to tips} purpurea* ^{ssp.}
~~*Spach.*~~ *quadrivulva*
Louis + Lewis
Abundant in meadow below
Four Corners. No spot on crimson
petals.

No. 17,636. *Agrostis diegoensis* Vasey

This grass grows in dense
colonies, small but covering ground
closely. The very slender or almost
filiform leaves (blades) of the culms
stand out stiffly, rigidly at an
abrupt angle.

No. 17,637. *Agrostis diegoensis* Vasey

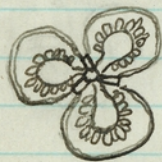
This grass, extremely similar
to 17,636, but with noticeable

or prominent stulow, is likewise in dense colonies, but the culms and panicles less dense.*

no. 17,638. *Euphorbia paphus* L.

Garden borders at Sanitarium.

-Cont. no. 17,630. The depth of lobing of the capsule is very marked. It is a surprise to me to find it so ^{deep}. If one look at it from the outside, no such impression is made as to the degree of lobing. The condition approximates 3, separate save only axially! (carpels) I saw section a young ovary and I find a slight union of the ^{walls} laterally.



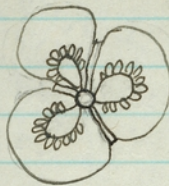
Heterocodon rariflorum.

b. The partition walls are very short in x-sect. See pp. 31, 35, 43.

* Culm leaves as in 17,636.

Heterocodon rariflorum.

c. note that the ^{see p. 31.} partition walls are unequal in length as seen in X-sect.



A reason why the ovary does not appear so deeply lobed as it really is, is due to the walls expanding upward from the side-channels to form the circular rim on which the "calyx-limb" rests, or from which it arises.
↑, better,

No. 17,639. *Centaurea cyanus* L.

See p. 37. Rays indigo blue or purple, narrowly fan-shaped, 5-lobed at apex (lower lip), with a 3-lobed upper lip $\frac{1}{2}$ to $\frac{2}{3}$ as long. In other heads the rays have a 4-lobed lower lip, a 2-lobed upper lip; in others still a 6-lobed upper lip,

a 4-lobed lower lip. There are probably other variations. Anguin, Howell Mt.

No. 17,640. *Carex*

Forming heavy stools with long leaves in moist spots in the meadow at Anguin.

No. 17,641. *Luzula*

Moist spot in the woods.

No. 17,642. *Agrostis diegoensis* Vasey

This grass forms colonies in formerly moist spots in the woods. Thin stand.

No. 17,643. *Holcus lanatus* L.

This grass is in a formerly moist spot in meadow.

No. 17,644. *Carex*

Forming very heavy stools with long leaves in low formerly wet spots in the meadow.

No. 17,645. *Trifolium*

Dry woods.

No. 17,646. *Dryopteris arguta* (Kaulf.) Warr
(Det. Tryon, 1938)

This fern in damp woods.

No. 17,647. *Festuca californica* Vasey

This grass forms heavy stools of long slender whitish leaves like *Xerophyllum* of *Carex*. Indeed it forms colonies greatly resembling that species. (Cont p. 47)

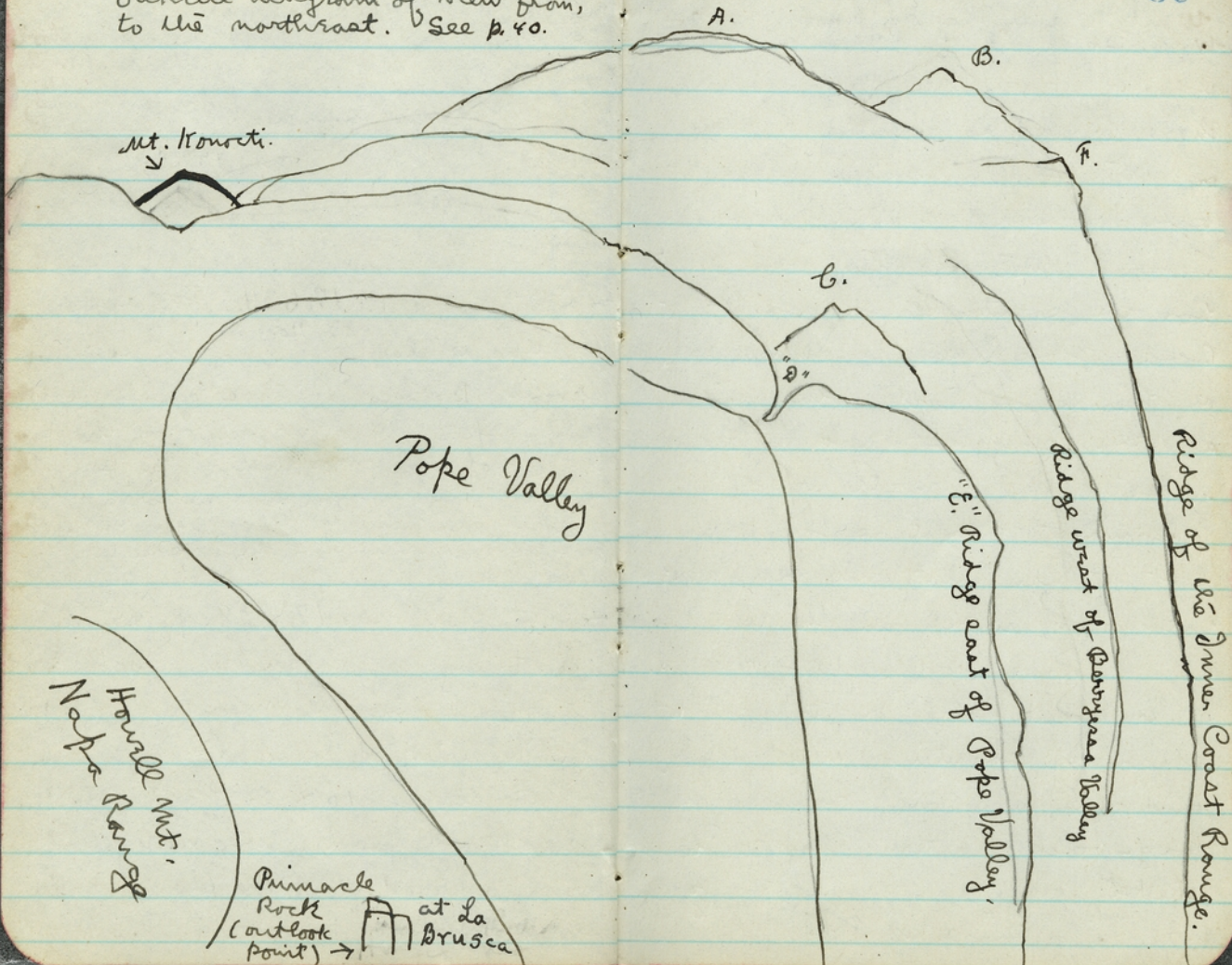
— Cont. from p. 29, no. 17,628. This ranch is doubtless nearer Rutherford than St. Helena.

— Cont. from p. 17,634. The appearance of this is different from the common species *B. coronaria*, as one sees it in the field, especially on account of the position of the stamens. The perianth seems very narrow, as compared with *B. coronaria* and the heavy green ribs of the per-lobes as seen from the outside are striking.

— Cont. from no. 17,639, p. 35. This is truly spontaneous in the wild. It grows in the margins of woods in undisturbed land. The colony of it covers 10 x 20 feet with scattered plants, not many. It is near a road, but the plants are evidently "on their own".

38

Howell Mt., Napa Range,
outline diagram of view from,
to the northeast. See p. 40.



39

July 3, 1936

behind the first ridge bounding
 slope on the east. There is a cañon
 gap, "B", in this ridge, "B", which should
 be of some importance, - at
 least topographically, as a
 water-way, perhaps, as a passage
 for a road. "B" is terminal ^{also} on Inner Coast
 Range.

Returning to the Sanitarium, ^{one}
 from near Holland House,
 has a good view south along the
 Napa Range to Mt. Diablo. A peak,
 symmetrical and prominent appar-
 ently, which I observed from Adam-
 and-Eve (cf. vol.) and
 thought to be west of Mt. Diablo, I
 now observe clearly as a very
 insignificant point in the Benicia
 Hills. This shows how light and
 haze can, to the eye, falsify the
 position of a peak or increase its
 importance out of proportion to
 its real mass; especially when
 the peak is far distant.



Cont. from no. 17,630,
 p. 31.

The "Man." describes
 the capsule as de-
 hiscing irregularly;
 "by mostly irregular
 lengthwise fissures" in
 the thin spaces between
 the ribs. I find in this

material, here on Howell Mt.,
 that the dehiscence is regular
 by circular pores, one ^{pore} in each
 interval near the base of the cap-
 sule. These pores arise in this way:

A crescent-shaped dehiscence takes
 place, after which the tissue on the
 inside of the crescent rises ^{upward} like a lid
 and folds ^{or contracts} in such a way as to leave
 an essentially circular opening.

- Cont. from p. 37, no. 17,647. When I first saw this in its colonies on a hillside which is undoubtedly very wet in winter, I mistook it for that species ^{(Xerophyllum} ~~tanacetifolium~~ ^{tanacetifolium}) until I went to the colony and examined it
No. 17,648. Linum

Corolla yellow. Broken rock soil, La Brusea, Howell Mt., July 3, 1936.

Sage Cañon, Napa Range,
July 6, 1936.

I drive up Sage Cañon to "Chiles Valley Store", turn right on the Monticello Road and keep on up the cañon of Chiles Creek, a considerable stream averaging 8 or 10 feet wide, the cañon with rather dense luxuriant vegetation, all common things: *Cornus glabrata*, *Umbellularia californica*, *Aesculus californica*, *Rhus diversiloba*,

- *Vitis californica* (abundant); - one seldom finds it save along living streams; *Quercus agrifolia*; Clematis no. 17,651; *Salix* (Red Willow); *Wash-ton* *Carex* (barren), in the stream; *Psoralea* *macrostachya*; *Calycanthus occidentalis*; *Alnus rhombifolia*; *Sambucus glauca*; *Heteromeles arbutifolia*; *Quercus* ^{cont. p. 46} *sinuata*; *Adenostoma fasciculatum* *
- no. 17,649. *Helianthus puberulum*
Creek bottom.
- No. 17,650. *Cirsium*
Sandy rocky hillside
- no. 17,651. *Clematis ligusticifolia*
Nutt.
- No. 17,652. *Stachys albens* Gray.
- no. 17,653. *Eriogonum vimineum*
Mountain slopes near Chiles Valley.
- No. 17,654. *Asclepias eriocarpa* Bth.
Dry ground, where road from Sage Cañon joins road from Monticello to Napa; c. 5 mi. s. of Monticello; near Soda Creek.

Plants observed here:

Aristolochia californica, common.*Populus fremontii**Quercus lobata**Cercis occidentalis**Heliotropium curassavicum* L.*Umbellularia californica*No. 17,655. *Cephalanthus occidentalis*
waters edge, Putah Creek.No. 17,656. *Malotus albus* Desr.

Itinerary cont. from p. 45 at *.

I climb out of Sage Cañon, left-hand wall, going east, and come out into the south end of the high Chiles Valley. I pass the Chiles Valley school and soon turn right down the east slope of a mountain, with many bends, in and out, in and out, in its little cañons. Finally I come out or rather off this mountain side and find myself some in a bottom with a fine living stream in, flowing northeasterly. It must therefore be a branch of Putah Creek. Next I come to the Monticello-Napa paved road. I turn left and after a few miles over the (Cont. p. 47*)

From Wells Hill, a slight rise in the Pleasant Valley road just north of the mouth of Eeldon Cañon, one can see over the low foothill ridges, between the Vaca Mountains and the ^{lying} Sierrita Hills the fine back of Mt. Diablo rise grandly. One sees the upper half of it, and this is very impressive from this point. It seems to me more impressive in the sense of bulk suggested than the whole* mountain as one sees it from Little Oak Ranch.
* An error. → - Cont. p. 51.-

Cont. from bottom p. 46 at *. Lower foothills, I reach the floor of Berryessa Valley, run north until striking the Winters road, then turn right down Putah Cañon. At Devils Gate, a fine rocky barrier, I stop to botanize (see p. 46 at top), go on to the Pleasant Valley road and cross Putah Creek by a summer (Cont. p. 48).

bridge, thence through Pleasant Valley and Vaca Valley to the ranch of J. M. Brazelton where I have supper. He is the present lessee of the Little Oak Ranch. Afterwards I go on to Little Oak, sleep in the open under one of the great Walnut trees (*Juglans Hindsi*), the next morning, July 7, driving to Cordelia where I batonize in the swamp (salt marsh) one mile e. of the village. I took one plant at Little Oak. No. 17, 657. *Elymus triticoides* Buckl.

This grass grows in the ditches by the roadside at Little Oak. There is a considerable colony of it on west side of the Vanden road, opposite the fig trees at Little Oak. It also grows up on the bank, but seems to flourish in the bottom of the broad

ditch. I cannot remember that it was there when I was a lad or later. Has it come in, in the last ten or fifteen years? I notice it again, driving south, south of the Nile Square Hill $\frac{1}{3}$ mile at the place where there is a fog in the Vanden road. Here there is a small dry creek which comes down from the hills (Pelleys Hills) from the cañon just north of the old Hewlett ranch. It quite fills the gully for some distance. Its flowering time must be late. In both places there were no signs of inflorescence. However, at Little Oak, I got a few old spikes, last year's.

I must not fail to mention that a midsummer storm, for two days, has been passing over the country. Today there (Cont. p. 50).

Gordelia, Solano Co., July 7, 1936.

Erymus glaucus Buckl.

No. 17, 658.

In salt marsh.

agratifolia L.

No. 17, 659.

Bichorium intybus L.

Roadside

- Cont. from bottom p. 49. wire road shows. When I reached Berryessa Valley (see p. 47 near bottom) the roads were quite wet from a recent fall, with remnants of little puddles on the pavement. It was dark when I drove from Brazelton ranch, Vallejo Valley (cf. p. 48) to Little Oak and I was struck by the amount of sheet lightning on the southeastern edge of the Sacramento plain, which I continued to notice into the night at Little Oak. The Oakland Tribune of July 8 has a leading news article on the number of fires set by this lightning storm - 60 fires in the state (probably below the real

[Little Oak, Vacaville, July 7, 1936]

Cont. from p. 49.

figure), 15 grass fires in Oakland, Alameda, and Berkeley. The article says that the fires were confined to the low foothills and valleys, and no fires were set by this storm in the high Sierra Nevada.

- Cont. from p. 47 below middle: One does not see the whole of Mt. Diablo from Little Oak. The base is shut off by the Mile-Square Hills, from Vander about half the back is shut off by the Portres Hills.

- *Lactuca* 8 ft. h. In garden on lower terrace at my home, Berkeley. See no. 14, 833.

Berkeley to Cloverdale,

July 21, 1936

Left Berkeley at 1:00 p.m. via Napa Valley and Knights Valley through Alexander Valley to Cloverdale where I stop for the night. Arrived Cloverdale at 4:10. Went out to east of town to look for the great California Laurel (*Umbellularia californica*) which I discovered in

1903 or thereabouts and illustrated with a full-page plate in the *Silva of California*. It was in its size and symmetry and perfection the most notable, the largest laurel in California. I could not find it. Returning to the town I made inquiry of the Librarian at the town library. She had never heard of it but referred me to Mrs. Wilson at the news stand. I found Mrs. Wilson to be a real tree lover who had bought the lot next her own in the town to save an oak threatened by the Italian owner. "Italians are death on trees", she said. "The first thing they do when getting a piece of land is to clear it of trees. We had a long discussion about the identity

July 21, 1936.

of the great laurel, for there were originally many large trees here. It was finally decided that it was the one on the Smith ranch which was cut down ten years ago. There was, she said, not a little mourning by those who objected to its destruction. She asked me several times the name of the ranch where stood my laurel but I could not tell her. I doubt if I knew the ranch name when I measured it. Being a stranger in the this neighborhood, I did not know the ranches by name and did not think it important at the time to find out. The laurel which Mrs. Wilson describes was well known. After other trees were cut down in the field it was left and the hay balers chose the spot to bale their hay, it being a nice shady place.

Everyone speaks to me about a large laurel on the side of the main street. It is hollowed on one side. Two trunks arise. These are crown sprouts from a former large tree, which made a large root-crown. I did not stop to examine the tree. It did not seem very notable, tho' well worth preserving on the sidewalk parking.

- *Medicago sativa*, a weed in waste waysides, Cloverdale.

- I drive, July 22, at 7:30 ^{from Cloverdale} up the Yorkville grade four or five miles and stop to botanize. A ditch, wet in the bottom, is full of a colony of *Verbena prostrata*, I never before, as I recall, saw so dense, so heavy a growth of it, - a mass 15 feet long and 4 ft. h. I take, as is sometimes my wont, a folder full of

separate leaves. It is to be noted that the larger deeply 3-parted leaves are gone - withered and fallen away from the main stems. ^(See no. 17, 668.) The spot where I collect

is within $\frac{1}{8}$ mile of the Mrs. O.M. Haehle ranch, that is one mile ^{about 2 or 3 miles westerly from Macdonald road etc. see pp. 58-59.} ss. of the ranch.

- *Medicago sativa*, roadside plant occasionally.

- *Melilotus alba*. Roadside thickets 6 to 8 ft. h. near Haehle ranch.

- *Verbascum Thapsus*, common on upper Elkhorn Creek,

- How I love it! Traveling easily along, often only ten miles per hour, through this wonderfully beautiful country, stopping frequently to botanize. A wholly fleckless blue sky, the day a bit hot but not excessively unpleasant and quite delightful anywhere in the shade of the lovely native trees!

On the hills e. end of Anderson Valley, I ^{flow} collect a *Hemizonia* (no. 17,670). It has two associated forms: (a) with the upper side of the rays quite yellow, egg-yolk-yellow, fading in time a little, and (b) rays a very pale or clay yellow fading to a clear white but ^{soon} with a slight tinge of pastel white, not a luminous white. It is now 11:00 o'clock and the heads are more or less closed.

I next stop, within 50 yards, for study of an *Eriogonum* ^{no. 17,672,} ~~un~~ colony, ^{on} an acre, almost pure, quite dense, in full fl. and presenting a fine spectacle.

Stems 4 to 12, erect from the branched root-crown which bears ^{sharply} the tuft of basal leaves.

July 22, 1936.

This highway to the coast is becoming dotted at short intervals with road stations. A road station is established and puts out a sign - a name of the place; they give the place a name. Another station advertises its wares for sale by signs but puts out no place name. The former will undoubtedly succeed better than the latter. The man in the latter case just expects people to know what and where his place is. It seems a small point but few men are smart enough to give a place name to a spot. There is a very great deal in a name.

No. 17,659a. *Plantago lanceolata*
With no. 17,669.

Between Alder Spr. and Macdonald
road sta., on Clovisdale - Yorkville road.
Mendocino Co.

No. 17,660. *Amaranthus retroflexus* L.

in the hills
Tiny flat, where the ground has been
disturbed. cf. p. 59.

No. 17,661. *Eremocarpus setigerus* Nutt.

Clarkii
No. 17,662. *Gratiola sinuata* Lfys.

Petals crimson with an irregular
patch of deeper shade. Dry hills.

No. 17,663. *Amaranthus albus* L.

With 17,660.

No. 17,664. *Gollomia grandiflora* Dougl.

Extremely glandular-gummy.

Bank in good soil slightly moist.

No. 17,665. *Boissduvalia densiflora* (Hindl.) S. Wats.

With 17,664.

No. 17,666. *Elymus glauca* Buckl. var.

jepsonii DAVY

[det. B. Crampton, July 1973]

This grass grows with 17,664.

No. 17,667. *Madia elegans* Lindl.

Rays orange-yellow, large, con-
spicuous.

No. 17,668. *Verbena prostrata* R. Br.

This grows in a place where

[Macdonald sta. is at 22 July, 1936.
forks of road to Ukiah.
Also called Mountain House.]

Mendocino Co.

The soil is a bit moist and the soil is
good. There is, therefore, at this spot
a luxuriant growth of vegetation—
including nos. 17,664 to 17,668. See
p. 54 ante for a note on the *Verbena*
prostrata colony. Nos. 17,660-17,663
were collected a short distance
(about a mile) before reaching the
Verbena prostrata loc. The locality is
near the Mrs. O.M. Haehle ranch (as
per post-box sign noted in running by).
This is about 5 or 6 miles from Clovis-
dale on the Yorkville road. It is
not far from a school (Alder Glen School) *
on the east side of the road. I had passed
the school (going west) possibly a mile when
stopping to collect. no. 17,660.

No. 17,669. *Psoralea macrostachya* DC.

Luxuriant plants 5 to 7 ft. h., in
good soil near fork of the road to
Ukiah (Mountain House road sta.)

* See also vol. 39, p. 21.

- No. 17,670. *Anthemis cotula*
Broken ground. This seems to prefer broken ground, or ground which has been trampled by animals when wet. Yorkville.

- No. 17,671. *Hemizonia luzulaefolia* DC.
See p. 56 ante. Anderson Valley.

- No. 17,672. *Eriogonum* ^{elatum var. villosum} ~~modicum~~ Bth.

See p. 56 ante. Anderson Valley.

- No. 17,673. *Baccharis douglasii* DC.
Wet hillside, or at least wet in spring and winter; at fork of the road which goes off to Greenwood.

- No. 17,674. *Mentha pulegium* L.
Large colonies of it, very prominent in an open field easterly from Dimmick Park.

— I stop for luncheon by the North Fork Navarro River. In the shade of the river bank trees and on a moist river flat or rather bottom, I collect

the following at a locality a few miles distant from Dimmick Park, that is easterly from Dimmick Park:

- No. 17,675. *Rumex conglomeratus* Mun.
River bottom.

- No. 17,676. *Holcus lanatus* L.
[det. B. Crampton, July 1973]
Rich soil in shade, a

frequent grass.

- No. 17,677. *Glyceria elata* (Nash.) Hitchc.
[det. B. Crampton, July 1973]

This grass grows on the river terrace in rich moist soil. **

- No. 17,678. *Melica subulata* (Griseb.) Scribn. [det. B. Crampton, July 1973]

This grass grows in rich soil, in shade, on the river bank.

*"e. of Dimmick Park" about 3 or 4 miles, on North Fork Navarro River.

** One sheet shows well the distinctive leaf-arrangement, the leafy shoot in one plane! This specimen is (over)

probably a sterile shoot. The culms with panicles exhibit the distichous² arrangement also - but it is not nearly so noticeable.

No. 17, 679. ~~Proserpinaca~~ *Disporum smithii* (Hook.) Piper. Berries salmon-pink, some of them markedly rhomboid-obovate. Shady bank in rich soil.

No. 17, 680. ^{= *Brickellia*} *Brickellia vulgaris* L.
^{var. *lanceolata*}
Shady bank, rich soil. This, as when, is quite at home in the wildest places in California; and to one who does not know its history it might well pass for a native plant.

No. 17, 681. *Oenanthe*

This umbellifer has prostrate or trailing stems which root freely at the tips, developing bulb-like swellings at such points. Moist river bottom.

No. 17, 682. *Plantago major* L.
Moist river bottom.

Mendocino Co.
No. 17, 683. *Holcus lanatus* L.
[det. B. Crampton, July 1973]

This grass grows in the open and forms marked colonies. It is a tall very conspicuous plant. On the coastal bluffs it is abundant and is the most common grass near Albion. Collected near Dimnick Park.

No. 17, 684. *Navarretia squarrosa* H. & A.
Dry ground. With 17, 683

No. 17, 685: *Juncus bufonius* L.
Albion Wet ground.

No. 17, 686. *Epilobium watsunii* var. ^{*franciscanum*}
Forming dense masses in rich moist soil on the coastal bluffs. Very showy in spite of the small size of the flowers, the crimson corollas rich. Albion.

No. 17, 687. *Sidalcea*
Albion. Stoliferous, the stems (when trailing) rooting. Corollas "Sidalcean-color." Some of the basal leaves cut to base into 8 or 9 divisions. Wet ditch.
↑ distinct

(Discarded, insect damaged)

22 July, 1936.

No. 17, 688. *Chrysanthemum*

See p. 144. Very abundant on the coastal bluffs and very showy. Plants 2 or 3 times as tall as the spec. taken ^{See p. 142.} and much "bushtier" usually. Albion.

No. 17, 689. *Raphanus sativus* L.

Luxuriant bushy plants

3 to 3½ ft. h. Albion. Petals white, faint ^{purple veining}.No. 17, 690. *Potentilla Geum ciliatum*

Hypanthium red-brown. The spec. taken is only ¼ or ⅕ of the plant arising from a branched root-crown. The plants are not erect and, therefore, not very conspicuous. Petals broadly oblong, obtuse, or obtuse and obscurely short-acute. Stamens 10, all short, but those opp. petals much shorter than the alternate ones. Albion. Stems trailing and ascending at the end.

Mendocino Co.

- *Arctostaphylos nummularia* cont. 17, 706.

From an early age, say at 4 or 5 years, the seedlings tend to spread and form a low bushy plant. It does not run up a leader, but always spreads out and becomes very dense, thick. It is now forming buds and prob. flowers in Aug. Mr. Colquhoun says he collects the berries in Sept. The seed germinate readily, he says.

- *Cytisus scoparius* cont. from p. 70 (no. 17, 696). Colquhoun, the gardener, says this is not called Scotch Broom in Scotland, but Whin. In England, they would say Furze or Gorse. He says that the history of introduction on this coast is known; an Englishman sent to England for seeds for his garden, and it got away. It is not, he says, an aggressive pest in Scotland - just a patch of whin here and there. See p. 131. A dense shrub 4-6 ft. h. See p. 110, p. 79.

Drove down to the Forest Nursery of the Union Lumber Co., just S. of Fort Bragg and had a fine session in the nursery beds with Robert Galbourn. ^{= Colquhoun!} I found him a most interesting and attractive man, with a certain old country charm (he is Scotch) that is very taking. He says: "Sequoia gigantea seedlings do not take kindly to transplanting. It is difficult to move them without cutting some roots and in consequence they are set back and are slow to make recovery. We send them out to our customers, therefore, with diffidence, because so often they lose them. Sequoia sempervirens, on the contrary, transplants with the greatest ease. We send out large quantities in a season, as many as 30,000 plants. When the roots of "sempervirens" are cut in transplanting they quickly make new roots. There is a very

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great difference between the two in this respect. *Sequoia gigantea*, on the other hand, germinates its seeds very freely, more freely than in the case of *sempervirens*. If we sow a pound of seed of *gigantea* we get a very free stand; a pound of *sempervirens* seed gives only scattering plants. The difference is noticeable. We expect from *sempervirens* seed to get only 20% germination. We get much more with *S. gigantea*.

If one put *S. gigantea* in containers and plan to keep them so until planted out by the customer that is some help but not much, since they resent constriction so markedly. Then, if left in the containers too long, they become container-bound and so take a long time to recover."

He showed me a row of *gigantea* which he had moved in order to prepare them for final moving. The

shock was so great that all the foliage had yellowed and turned brown, after which they made recovery by new shoots. These new green shoots topped on all sides the brown zone.

Calhoun (= Colquhoun!) has a row of *Cornus florida* seedlings. He says this species is readily propagated by cuttings—but that he has never succeeded in setting *Cornus nuttallii* by cuttings. He wishes now to get some seed in order that he may get a start, since without doubt propagation could be had by layering.

He notices distinct type of seedlings in his Port Oxford Cedar seed-beds and is propagating such by cuttings.

= Colquhoun! See p. 202.

Calhoun is a gardener; was apprenticed at 14 as a gardener in Scotland; and comes of a race of gardeners. He is a gentleman.

No. 17,691. *Senecio Jacobaea* L.

See p. 70. Very erect tower-like or virgate stems, common on the steep sides of first great gully s. of Noyo. Rays 13, 12, 13, 13.

No. 17,692. *Cirsium Carduus*

Annual. 6 ft. tall.* Leaf-blades $\frac{3}{4}$ or $\frac{4}{5}$

decurrent on stem. Margins of thick.

Not common here at this point. With (17,691.)

No. 17,693. *Scrophularia californica* Cham.

Slender, tall, erect-branching above.

Corolla, esp. upper lip burnt-umber color, the two lobes of upper lip overlapping and inclined forward.

No. 17,694. *Garrya elliptica* Dougl.

6 to 8 ft. h. in thicket of *Rubus*

parviflorus and scrub *Aesculus californica*.

No. 17,695. *Castilleja latifolia* H. & A. var.

Three to 4 ft. h. when coming up through bushes. Calyx-lobes 2, right and left, notched at the top, the galea

* Extremely slender and erect, and erect-branching, branching only at top.

eventually slightly exserted. The bracts in the main are responsible for the bright crimson color, though the calyx-lobes are also crimson. The corolla is wholly a dull neutral whitish-green.

No. 17,696. *Eytisus scoparius* Link. See p.

65. Run wild on pasture borders and in waste strips by roadways; ^{locally} abundant.

Noyo. A difficult shrub to eradicate (Dr. Bowman) See p. 131.

No. 17,697. *Lonicera*

Cor. maroon; anthers red-brown.

Climbing 4 ft. h. amongst bushes.

No. 17,698.

This grass at Ft. Bragg. 7-23³⁶

No. 17,699. *Chrysanthemum leucanthemum* L. This showy white-flowered Composite formed a colony by the roadside, Ft. Bragg, next a *Pinus muricata* wood.

— *Senecio* (no. 17,691) cont. The stems are very leafy up to the panicle, the leaves little reduced above. Lower leaves petioled, the upper leaves tending to be subsessile or sessile.

Through the kindness of the Union Lumber Co. people Dr. P. J. Bowman is invited in to dinner at the Guest House this evening. He is of the Johns Hopkins Medical School, rather young (c. 35). He is much interested in the native plants and grows some of them in his garden. He deplored the raids made upon the colonies of *Colypso borealis*. School-children at Fort Bragg, said he, go into the woods and gather huge bunches of it, so that now it cannot be found where formerly it was common. He predicts its eventual extinction and said: "I regard it as our most beautiful wild flower. I love it." In this and in other ways he indicated his deep interest in the local vegetation. He says that he has never found it under Redwood, only under Douglas Fir. Dr. Bowman is kept very busy professionally at the Fort Bragg Hospital.

No. 17,700. *Erechtites prenanthoides* (A. Rich.) H.

This antipodes "fireweed" forms dense heavy thickets, pure often, 5 to 7 ft high in the *Pinus muricata* woods just back^(e.) of Noyo.

No. 17,701. *Epilobium angustifolium* L.

This "fireweed" grows in the *Pinus muricata* wood border back of Noyo. The two lower petals spread symmetrically right and left so as to make an "irregular" flower. The style is downwardly inclined a bit over this opening. The 4 longer stamens dehisce their anthers first. 4-7 ft. h. Cont. p. 106.

— *Anaphalis margaritacea*
Extremely common, its colonies 3 to 4 ft. h. and 10 to 20 ft. long making frequent white spots along the coast.

Pinus muricata forest back of Noyo.

- *Sequoia sempervirens*
- *Tsuga heterophylla*
- *Pseudotsuga taxifolia*

Pine Barrens

- *Gaultheria shallon*, abundant on the floor; one of the dominants; propagating by stolons.
- *Xerophyllum tenax*, extremely common. I have never before seen it so abundant. Rather small plants.
- *Rhododendron californicum*; 4-6 ft. h.; abundant.
- *Cartanopsis chrysophylla* var.
. To 14 ft. h.
- *Myrica californica* Cham. 6-9 ft. h. Frequent.
- *Pinus muricata*. Abundant.
- *Vaccinium ovatum*. Abundant.
- *Arctostaphylos columbiana*. 7-9 or 11 ft. h., remarkably erect, and remarkably straight-limbed for an

cont.

Arctostaphylos. Warm narrow trunks, the color, I think, different from that of any other *Arctostaphylos*. The trunk, 4-5 ft. high, rises cleanly from the ground without any basal shoots or sign of enlargement. No. 17,707.

- *Arctostaphylos nummularia* Gray. Forming rounded bushes 4 ft. h. and as broad or broader. The leaves persist 3 or even 4 (!) years. The bushy habit seems different from the habit of the shrub on Mt. Tamalpais which has one trunk from the base. The foliage seems a little different also. The bark is rough - rough in a fine way, due to the small size of the flaking particles - but still rough; rough down on the main trunk which is very short (a few inches, the branches coming off low) and rough also on the branches well out towards the 2 or 3-year old growth.

- *Arctostaphylos columbiana*. Foliage a light color - almost I said whitish - but pale. Bark polished - smooth.

No. 17,702. *Crepis capillaris*

Forest borders, by roadside.

A frequent introd. Composite

No. 17,703. *Hypochaeris glabra* L.

Crepis capillaris Forest opens smaller plants than 17,702

No. 17,704. *Airacaryophylla* L.

This grass common in "opens"

in the pine barrens woods.

No. 17,705. ^{= *R. macrophyllum*} *Rhododendron californicum* Hook.

No. 17,706. *Arctostaphylos nummularia* Gray. ^{var. *sensitiva* (Jeps.) McMin} See note p. 74, p. 65.

No. 17,707. *Arctostaphylos columbiana* Piper. See note p. 73, at bottom.

No. 17,708. *Myrica californica*

See note, p. 73.

No. 17, 709. *Allium dichlamydeum*
Greene. On the faces of the cliffs.

No. 17, 710. *Plantago maritima* L.
On the faces of the cliffs.

No. 17, 711. *Sagina crassicaulis* Wats.

Highly distinctive, as seen "in the field," are the basal rosettes, very compact, very symmetrical! Quite prostrate, ^{plant,} perhaps better "decumbent" as in Man. On the faces of the cliffs.

No. 17, 712. *Eriogonum latifolium*
Sm.

Scapes arising from the short branches of the root-crown, radiating and prostrate, the terminal inflorescence likewise trailing or at least decumbent if not actually prostrate.

— Came out here with Dr. Bowman (cf. p. 71 ante) at 4:00 o'clock and we worked the cliffs until 6:20.

No. 17, 713. *Grindelia*

Rays 23, 27, 27, 29, 29, 27, 28.

Root-crown with branches 3 to 5 or 7 inches long, these branches giving rise to 1 or 2 leafy shoots bearing terminally a single head. These shoots of the season are trailing, ascending at the end. Since there are many branches altogether, the plant forms a thick rough (Cont. p. 81)

No. 17, 714. *Angelica hendersonii*

C. + R. This is remarkable for its squat habit as compared with *A. tomentosa*. The leaves are remarkably stiff and quite fleshy. The infl. is condensed. The leaflets are markedly cupped or with upturned edges. Plants 1 1/2 to 3 ft. h., the peduncles rising out of the very leafy base, the leaves forming a mound of foliage which is extremely interesting. Plants sometimes 4 ft. h.

No. 17, 715. *Daucus*

No. 17, 716. *Grapholium*

Sea-cliffs.

No. 17, 717. *Deschampsia holciformis* Presl.

This grass grows in dense tufts on the cliffs.

No. 17, 718. *Baeria navaantha*

It forms tiny mats in wet gullies on face of the cliffs

No. 17, 719. ~~*Scirpus*~~ ^{*Scirpus*} ~~*byssoides*~~ *cernuus*

No. 17, 720. *Triglochin striata*

R. & R. Stems very slender, almost filiform. Sea-cliffs in wet rivulet. Lower sepal turned downward and outward so as to suggest a lip. Under the dissecting microscope it is seen that this distension conceals an anther, — one anther which is quite larger (Cont. p. 90)

No. 17, 721. *Chrysanthemum leucanthemum* L.

See below. This showy composite forms a colony ^{note} 50 yds. long by the side of the road, somewhat low place, next the *Pinus muricata* grove south of the Union Lumber Co's mill. The grove is in primitive and

No. 17, 722. *Senerio jacobaea* L.

Leaves all from one stem.

Same as no. 17, 691.

No. 17, 723. *Holcus lanatus* L.

The most abundant grass here on the coast line. In places it is as abundant as *Avena fatua* in the interior.

— *Cytisus scoparius*, cont. 17, 686. Cor. bright clear yellow, blackening in drying. See p. 110

— Cont. no. 17, 721. Very (showily) floriferous. Stems 1-headed as in spm. or branching at top and several-headed.

No. 17,724. *Baeria macrantha*

Days 9, 10, 11. This comes from a moist tiny snale side just above the cliff edge. It does not form fleshy rootstocks as in 17,718 which grows on the face of the cliffs in a wet tiny gully. Cont. p. 81.

No. 17,725. *Plantago hirtella* H. B. K.

Bottom of moist ditch.

No. 17,726. *Plantago lanceolata* L.

Meadows above the cliffs everywhere. Notice that the spikes when displaying their stigmas are on ^{short} scapes; the scapes become twice as long by the time the ^{twining} ~~the de-~~ anthers are protruded.

No. 17,727. *Scirpus cernuus* Vahl.

This caricoid plant forms extremely dense small mats in the bottom of a tiny gully.

— *Grindelia*, cont. from p. 77 (no. 17,713). mat, this and adjoining plants making colonies 10 to 30 yards across. These colonies are conspicuous, on account of the numerous heads borne by the plants. The bracts of the involucre are subulate, with the tips recurved into a hook. (Cont. p. 91).

— *Baeria macrantha* (no. 17,724) cont.: Pappus-bristles 2. Receptacle conic, covered with papillae which bear the flowers. When mature, after fls. have fallen, the papillae show an umbilicus, the seat of attachment of the flowers.

No. 17,728. *Erigeron glaucus* Ker.

Flowering shoots 1-headed, erect, but arising from decumbent bases which are given off from the branches of the root-crown. Forming colonies on the tops of the sea-coast bluffs. The root-crown habit is well shown by folder "a". Cont. p. 85.

This morning, Sat. July 25, I go back to the sea-cliffs n. of Pudding Creek where I worked yesterday with Dr. Bowman (see p. 76 ante). and I study and collect all day. of. p. 80 et seq. It is an ideal day truly: a fleckless sky; no disturbing wind but a slight movement of the air; pleasantly warm in the sun. Late in the day, as I am on the ground studying *Baeria macrantha* or a variety of it, I am suddenly conscious of someone near ^{in that lone place} me. I look up and behold an old man, very erect, with white hair reaching to his shoulders. At once I notice that though his attire is extremely rough, poor, patched, the skin of his face is clear, healthy-colored, transparent as a child. His body

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thus suggests cleanliness. He kneels beside me and observes my actions. Then after a word or two with me he says: "You are a botanist." I give assent and some talk ensues regarding the relation of geology and other sciences to botany. Then he asks about my interest in philosophy. ^{I reply} and he observes that philosophy comprises all the sciences. He then says: "I knew a young man whose knowledge of the seawards surpassed that of anyone in the world. He was very able. He died young." I ask his ^{name}. He replies: "Robert Brandt. I buried him. I was the undertaker in the town then." ^{also} He referred to a brother of Robert Brandt who is now a watchman for the Union Lumber Company at Noyo Point. The

Sea-cliffs and indur. $\frac{1}{5}$ mi. n. of
 Pudding break, near Fort Bragg.

hermit (for such he called himself) then pointed to the cabin, across country, in which he lived. See p. 193.

Emma,
 Speaking with the maid at the guest house, she said his name was Shaw and that he called himself a "super-hermit." He often goes barefoot and plainly loves to capitalize eccentricities for the benefit of the public.

— Cont. *Eriogonum latifolium* from p. 76 (no. 17,712). My sheet "a", only about one-fourth the plant, shows well the habit: the central root-crown with its short branches and terminal leaf-rosettes from which arise one or two scapes (utterly leafless). These scapes trail* out over the ground; even the inflorescences which they bear

* cf. p. 192

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trail. On a sandy slope of a tiny headland I find the cover largely composed of this species. The plants are very floriferous. One plant, the circle of which is four feet across, is noticeable for its abundance of heads; they are produced in such numbers that they touch one another and form a nearly unbroken mat of heads.

— *Eriogonum glaucum* cont. no. 17,728.

Folder "b" shows the manner in which the long slender branches of the root-crown develop terminal buds successively at one point. From these terminal buds are given off one or more leafy flowering shoots of the season. Then the conditions change, the terminal bud becomes buried or overcrowded and the root-crown branch elongates and develops another terminal bud which then successively develops

flowering shoots. These flowering shoots must be excised at the end of the season as I perceive no remnants of them from previous seasons.

No. 17,729. *Lupinus*

Meadows back of the sea-cliffs, common. This is a part of the low-vegetation mat which covers closely the meadows. Its stems radiate from a central root crown, trail along the ground, ^{the} racemes ascending. It is ^{only} noteworthy that there is nothing erect about this plant. And yet from the ^{sp.} _{cf. p. 128} one would never guess the real habit. One might easily suppose, it an erect or suberect plant. This emphasizes this consideration: The important thing is not the collection of specimens, not primarily. Museums and herbaria

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are loaded with specimens bearing no useful facts save merely name of collector, locality and date, or with one or more of these essential facts missing. What is needed first of all are accurate, careful thorough observations or notes of field experiments or recorded localities or marked or staked plants - notes relating to habit, to behavior, to structure, to methods of propagation, to devices used in competition, to numberless features and elements of the plant which can only be successfully observed and recorded in the field.

No. 17,730. *Bastillea latifolia* H. & A.

Plant as a whole trailing but the inflorescences ascending. Abundant in the meadows on top of the sea-cliffs.

No. 17,731. *Statice arctica* Blake var.
californica Blake. Scapes erect, arising from the branches of the root-crown, the terminal bud of a root-crown branch with a tuft of erect (green) leaves, the leaves of the previous season diffusely persistent in a brown mass. Common.

No. 17,732. *Wyethia anoustidia*
Helianthus (DC.) Nutt.

Rootstock of spm. "a" showing 17 years growth. Another spm. shows 52 rings, perhaps about 13 years. The leaf average for each tuft is 4.

No. 17,733. *Hypochoeris radiata*

Meadows everywhere along
($\frac{13}{14}$ in. broad)
the coast. Very showy heads, yellow.

(Hybrid between)
No. 17,734 *H. racemosa* *chamissonis* Less. var.
chamissonis and *F. chamissonis* var. *bipinnatisecta* Less.
Cont. p. 93. Stems many (20 to 35) from the
root-crown, trailing, forming a broad mat, only
the tips of the spicate inflorescences ascending.

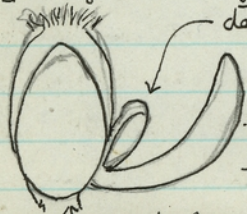
— *Lupinus* cont. no. 17,729. Wings
large and prominent, blue-purple,
fading dull white; banner dull white;
↑ soon
keel, with purple beak, densely
dull white soft-ciliate on
upper part, the ciliation continued to
base but less marked, less dense. The
racemes are short, with 1 to 2 or
mostly 3 or 4 verticils. The flowering
is still abundant but the effect is as
if the plant were not vigorous. The
racemes appear weak and unthrifty.
The population, if decadent, might,
as it were, produce such inflorescences. And yet I suppose all
this is a mistaken appearance. The

upper calyx-lip is distinctly but not deeply notched at apex; the lower lip is minutely but plainly 3-toothed at apex. This was determined (the 3-toothing) by examination under the dissecting microscope which I carry into the field.

— *Triglochin*, no. 17,720 cont.
and broader a slight bit than long. The single carpels 6.

anther is, as I say
on the lower side of
the flower and es-
sentially sessile.

a. stigmas.



b.

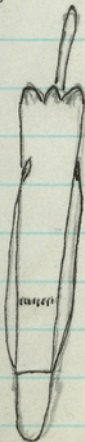
dehiscid anther.

... c. sepal opposite and covering anther. After dehiscence of anther it spreads so!!

a. sepal on side facing observer.

I said "single anther", p. 90. This anther is the only fertile or developed anther. See "b" in figure. But under "a" sepal is a microscopic rudiment which must be an undeveloped anther. Under the corresponding sepal on the opposite side is a similar rudiment. There 3 sepals, as spoken of, are the outer sepals; there are also 3 inner smaller sepals.

— *Grindelia* cont. no. 17,713. The pappus bristles are caducous and it is difficult to remove a fl. and keep the bristles for that flower.



← Flower, showing the 2 pappus-bristles. The shaded cross band represents the limit of the lower part of cor. which is narrower than upper part, of slightly different texture, and may represent the tube proper, the upper part being the throat. See p. 145.

No. 17,735. *Cirsium*

Stems several from the root-crown, 8 to 10 in. high, forming a dense rounded low plant $1\frac{1}{2}$ to 2 times as broad. Mature achenes jet black. Each folder taken represents only about $\frac{1}{6}$ the whole plant or less. The undulate leaves are very fleshy. Midus.

No. 17,736. *Madia sativa* Molina

Plants $1\frac{1}{4}$ to 2 ft. h., the stems or branches ^{curving-} tortuous when young. Note that the branches are few, ^{elongated} and widely spreading, not horizontally, but markedly divaricate. Note the long parallel veins of the leaves, 5 usually. Note that the leaves are green, although some heads have emptied the achenes. The one brown phase of the plant is represented by the

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fruiting involucre. With *Madia sativa*, at Berkeley say, the leaves of the lower part of stem are gone when full flowering is on, are gone or dried brown; whereas the infl. is green. Note the narrow acuminate leaves. Rays pale yellow, cuneate-quadrate, truncate, 3-toothed, $2\frac{3}{4}$ lines long. Rays 7 or 8.

~~Bromus~~ no. 17,734. Note in the folders that the spikes are abruptly turned upward. It might be thought by the unregenerate that they were bent upward getting them in press! Not so. That position is a natural one, as assumed where they grow in response to light and sex-functioning. Stems 2 to 3 ft. long.

No. 17,737. *Bromus marginatus* Nees
[det. B. Crampton, July 1973]

This grass appears to be perennial on account of an old dry culm ^{over-}

Sea-cliffs and muds. $\frac{1}{5}$ mi. n. of
Pudding Creek, near Fort Bragg,
apparently from last year. In hand-
ling spm., it detached itself and
does not appear.

No. 17,738. *Agrostis ciliicola* Crampton
[det. B. Crampton, July 19, 1973]

This grass may be perennial, on
account of or rather as evidenced by
old stems. Perhaps it is perennial
by stolons.

No. 17,739. *Chrysopsis*

Stems many, from the root - crown
and prostrate, with ^{radiating} only ascending end,
thus forming a dense close mat,
quite thick and unbroken, an almost
perfect circle 4 ft. across. Rays linear,
yellow, acute, $\frac{1}{2}$ in. long; counts: 21, 21,
20, 19, 18, 19. The mat, to the eye, is
remarkable mostly for its leafiness;
the heads of flowers are mostly on
the periphery of the circle.

No. 17,740. *Grapholium* ~~purpureum~~

Stems erect or ascending
from a decumbent. Muds.

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No. 17,741. *Deschampsia holciformis* Presl.
[det. B. Crampton, July 19, 1973]

This grass forms exceedingly
heavy stools. The two folders taken rep-
resent only about $\frac{1}{50}$ th of the stool.
Muds.

No. 17,742. *Orthocarpus castilleioides*

Stems numerous, slender or almost
filiform, radiating from the short
central axis, prostrate or trailing,
the terminal spikes ascending. Thus
the plant, an annual, forms rough
mats and flowers a long time. It
is now, apparently, towards the end
of its flowering season. Calyx cleft
 $\frac{2}{3}$ to base into slender-subulate
white-tipped lobes; lobes markedly keeled,
equaling the sacs of the lower lip.
Sacs yellowish, galea dull or whitish.
Sacs higher, much higher than thick radi-
ally, or than they are broad transversely.
Galea only slightly longer than the

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Sea-cliffs and mounds, $\frac{1}{5}$ mi. n. of
Pudding Creek, near Ft. Bragg.

teeth of lower lip. Sacs emarginate
or narrowly creased at apex.
Teeth of lower lip rather long but
shorter than the sacs are high.
Abundant in the mounds. By the
cliffs. Stamens subequal but the

lower pair apparently the longer; fila-
ments glabrous; style glabrous ^(Cont. pp. 99, 100, 107.)

No. 17, 743. *Bakile edentula* (Bigel.) Hook.
ssp. *californica* (Heller) Hult. *
Sand-dunes on top of cliffs.

No. 17, 744. *Mesembryanthemum* ~~reginae~~
~~laterale~~ *Haw. chilense* Mol.

No. 17, 745. *Scirpus americanus*
Heads black. Culms 3-sided. (Cont. p. 97).

* This is often common on patches
of sand. Here before me, on top of
the cliffs on a sand dune are
numerous small plants, erect
or nearly so, 4 to 8 in. h., heavily
loaded with fruit. On the slope of
the cliff I note a large bushy

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plant resting on the ground, 6 ft. wide,
2 ft. h.

Cont. from p. 96. no. 17, 744. Forming
dense colonies on the slope at foot of
cliffs, only a few feet above the high-
est tides ^(But see p. 98.) ^(branching) Reproducing by rootstocks.

No. 17, 746. *Oenothera*

Stems and branches trailing
or prostrate, no part ascending or
erect. The stems or branches radiate
from beneath one of the rosettes borne
on the branches of the root-crown.
These leaves of the rosettes are
quite different from the ^{↑ scattered} leaves of
the branches. Pets. yellow, aging pink-red.

No. 17, 747. *Sidalcea*

Large flowered plants and
small-flowered plants. One folder
shows that the stems arising
from the root-crown did not die
back to the root-crown, but that
all the part covered by the veg-

etative duff or tundra persisted and gave rise to shoots in the season of 1936. These old stems, however, - what are they? Does their presence make *Sidalcea malvaeflora* a shrub?

The question is absurd to me; but it should not be to those who classify as shrubs those plants with a very slight woody persistence.

No. 17,748. *Trifolium wormskjoldii* Lehm.

Forming a compact colony

2 yards across, as close, even, regular and dense as a lawn.

One of the lowest plants, altitudinally, in the final zone whose lower border is cut off sharply or delimited by high tide. Slightly lower than this lower are some patches of no. 17,744, which lies 4 to 7 feet higher.

The main colony of

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Cont. *Orthocarpus* no. 17,741. The bracts are green-herbaceous but white-tipped. These plants sometimes grow on the face of the cliffs, that is very much under the influence of the sea.

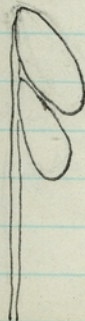
No. 17,749. *Achillea* ~~*basalis*~~ *californica*

Muds on top of the cliffs.

No. 17,750. *Centaurium muhlenbergii*
~~Griseb.~~ Note the large white eye to the pink corolla. Common (at least at this time).

No. 17,751. *Juncus*

Slopes of the bluffs facing the sea the rootstocks deeply seated in sand; not horizontal. ~~rootstocks~~ ^{vertical}



Orthocarpus, 17,742 cont. The lower pair of stamens are the longer; their anthers dehisce first. The anthers consist of two quite distinct cells, as shown in sketch. See p. 100 for other details. Also p. 107.

The teeth of the lower lip and especially the larger central one of the three are closed in against the galea. This central tooth is slightly shorter than the galea, an interval just filled by the stigma of the style, which is thus exposed externally. The anthers of both pairs of stamens are not only 2-celled but the anthers are separated by a distinct interval of filament!

The bracts, white-tipped, turn pink in age (as to the tips). The interior of the corolla seems quite glabrous.

— *Silene gallica* In a quite wild place in the mounds.

No. 17,752. *Carex*

This grows in a wet gully on edge of meadow, running down to the sea. The gully is densely massed with vegetation — a number of species, each species forming

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a colony. This sedge dominates a considerable part of the gully. It is a very tall sedge, 4 to 5 ft. h., with leaves as well as stems from the rootstocks. The mature ♀ spikes are pendulous; also the ♂ spikes.

Census of Gully. f. sub. 17,752.

— *Rosa* sp.

— *Gaultheria shallon*

— *Rubus vitifolius*

— *Patentilla anserina* (here and elsewhere it forms extremely dense masses in hollows of the bluffs.

— *Angelica hendersonii*

— *Polystichum muritum* no. 17,753.

— *Barex* no. 17,752

— *Myrica californica*.

— *Stachys charnissensis* Bth. no. 17,754.
The color of this (the cor.) is peculiar: lurid pink-red. Is it a new one?

Census incomplete — lack of time; but the above are the dominant constituents.

Sea-cliffs and mdws., $\frac{1}{2}$ mi. n. of
 Pudding Creek, near Fort Bragg.
 No. 17,753.

This fern forms dense masses in the gully (cf. p. 101). Looking at the colony one would take it to be a foot or two high, but when one pokes his way into the colony and stands alongside it, he finds it to be 4 ft. h.
 No. 17,754. *Stachys chamissonis* Ait.

Stems, 5 ft. long, not quite so high because ^{as much as} swayed down at base by the mass of vegetation cf. sub. Census of July, p. 101.

— *Eriogonum latifolium* Sm. The plants are often very attractive: a cushion of leaves crowning the root, ^{circular} radiating from this the peduncles and with their umbels and large heads forming a circle of flowers lying on the ground, surrounding the central cushion. The branched root-crown and its foliage often

Pudding Creek (300 yds. above highway bridge), Fort Bragg, July 28, 1936
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lie a little higher than the zone of flowers, since the cushion holds the sand, whereas for most of the year the outer zone is exposed to the driving sea-wind. Sometimes one finds a plant with pink flowers, but normally they are white.

No. 17,755. *Artemisia pycnocephala* DC.

Foliage forming broad flat cushion on the root-crown, dense, ^{or low rounded} 2 to 3 or 4 in. h., from which rise the ascending flower-stems. Sand dune.

No. 17,756. *Abronia*

Sand dune. Per. yellow.

No. 17,757a. *Franseria chamissonis* Less. ^{var. bipinnatisecta Less.}

Stems trailing over the ground, the ends ascending, the inflorescences erect or suberect, several stems from the root-crown, branching, thus forming a low rough mat 5 ft. broad, and

about 4 to 7 inches high.

No. 17,758 *Poa macrantha* Vasey [det. B. Crampton, July 1973]
#17,758A: *Aerostis halletii* Vasey [det. B. Crampton, July 1973]
This grass forms an exceedingly

ingly dense compact stool; the leaves and flowering culms in an erect heavy tuft; the base of the plant sends trailing out over the ground

very slender runners 3 to 4 ft. long jointed at short intervals and leafy-tufted at each joint with very narrow leaves. This is quite a remarkable plant. I note only one individual. Sand-dune, edge of marsh.

No. 17,759. *Elymus vancoverensis* Vasey [det. B. Crampton, July 1973]

This grass grows in the marsh bordering Pudding Creek above the bridge. It is common in one spot, on the ^{highway} inside of the marsh, away from the creek. The stems are few, 1 to 4, from the root-crown, strictly erect, unbranched, very tall and

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very handsome with their fine spike-like inflorescence at the end. The marsh is a salt-marsh or somewhat so. (Cont. p. 106).

No. 17,760. *Mimulus guttatus* DC.

Wet swale facing the sea, on the face of the bluffs. Leaves very fleshy as compared with the plant of the Sacramento Valley say.

No. 17,761. *Eriogonum* *Coryza canadensis* (L.) Cronq. Marsh.

No. 17,762. *Rhamnus californica* Esch.

The spurs. ^{see p. 194.} were taken from a growth which apparently represents one individual - a mound-like mass in a tiny hollow on the bank of Pudding Creek, 40 feet in diameter and 12 feet high in center, sloping to 3 or 4 ft. at margins. The growth is so dense that it is impossible to get into it - but the form of the growth indicates that it represents one individual.

No. 17,763 *Hordeum brachyantherum*

NEVSKI [det. B. Crampton, July 1973]
This grass grows in the same

marsh as no. 17,759, but near the creek.
 No. 17,764. *Scirpus*

Marsh, with 17,763. I look upon it as a reduced or dwarfish state of no. 17,745.

No. 17,765. *Convolvulus sodanella* L.

Cor. pink. Sand-dune.

- Cont. *Epilobium* no. 17,701. Note that the plants have but a single axis; there are no secondary axes. The stem is quite unbranched from ground to tip.

- Continuation of note on no. 17,759. This is perennial. I judge from remnants of what appears last years culms borne on the root-crown. It reproduces, I take it, by stolons. These were mainly broken off my largest spm.

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and I did not notice it - at the moment in the field. One can readily prepare herbarium material of grasses - they are so easily dried with the minimum of attention - but they require unusual care and attention in the details of collecting. The underground parts or the basal parts as having to do with the multiplication or extension of the plant are very important but easily overlooked. In the case of 17,759 the stolons are sufficiently preserved to evidence perennial character but I do not know how long they are or how they behave. They are extremely rigid like a tough wire.

- Cont. *Orthocarpus* no. 17,742. Lower lip: sacs with black dots at base in the intervals between the sacs; 5 black dots at apex in the intervals and creases.

Padding Creek, about $\frac{1}{2}$ mi. e. of
highway bridge; near Fort Bragg.

No. 17,766. *Convolvulus luteolus*
Gray. Bushy hillside. Cor. white.

No. 17,767. *Scirpus*
Tule, 6 to 9 ft. h. Riverside
marsh.

No. 17,768. *Typha*
Plants 6 to 8 ft. h. Leaves

from the base (those that sheathe
near the base) equaling or exceed-
ing by a foot the infl. Stems
arising from rootstocks which send
off runner rootstocks about 6 to 8
lines thick from which other shoots
arise. The vegetative above-ground
axis is wholly unbranched up to
the infl. Creekside marsh. Just past
flowering.

No. 17,769. *Cotula coronopifolia* L.

After flowering the heads
mature, scatter their achenes and
the involucre finally detaches

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from peduncle. The peduncle shrinks,
becomes lifeless and weak with a
slender point. Such thread-like
structures are at that time a
feature, and impart to the plant an
air of stringiness. They are scirpoid
structures.

No. 17,770. *Castilleja*

A bush $3\frac{1}{2}$ ft. h., 5 ft. broad,
rounded, covered all over with spikes
of brilliant red flowers. Bushy hillside.

No. 17,771. *Anaphalis margaritacea*

Its colonies here and there make
broad white spots on a bank or hill-
side.

No. 17,772. *Lolium multiflorum* Lam.

Brushy hillside.

No. 17,773. *Dactylis glomerata* L.

(det. B. Crampton, July 1933)

This grass forms a stool of
about 15 culms. The lower clusters
of the few-clustered panicle are

borne on long peduncle-like branches which diverge horizontally from the main axis. In a tiny flat by rr. track. Noticed only one stool.

- *Vicia gigantea*
- *Cirsium lanceolatum*

No. 17, 774. *Stachys ajugoides* Bth.
Brushy hillside.

- Cont. *Cytisus scoparius* no. 17, 696, p. 70. Refer to the story on p. 65 as to introduction. More specifically the story is as follows: Andrew Torres is the name of the Englishman. He sent to England for the seed. When it came he took it to Mrs. Burwash at Caspar and said: "See, what I have ^{from the old country}. Do you know what this is?" And Mrs. Burwash replied and said: "Yes I know what it is. It is Gorse". And she knew it was Gorse because she herself was English. I feel now, however, that Colquhoun was speaking of no. 17, 831 and not no. 17, 696.

no. 17, 775. *Habenaria*

Sandy-ash in the pine barrens. Sepals linear, the upper one closing the slight diverging gap between the 2 upper linear petals, the two lateral sepals spreading. Lip narrow-ovate, ridged in middle, the ridge running down into "throat". Flowers greenish. Scape slender; flowers delicate. Corolla globose.

no. 17, 776. *Castilleja*

Cont. p. 153. Foliage brown; probably ^{far-}root-arctic on *Antrostaphylos nummularia*. Calyx colored red, a little crescent-shaped on upper side, cleft in front deeper than at back, the back cleft only slightly deeper than the clefts of the lateral lobes. Gales and lower lip wholly exserted; gales yellowish-greenish save a narrow red margin in front towards the tip.

Mendocino Pine Barrens, about 2 mi.
back of Noyo, July 28, 1936.

No. 17,777. Not used. *unicata*

Same 20 to 30 ft. h.

No. 17,778. *Arctostaphylos munitaria* Gray. ^{var. *sensitiva* (Tep.) McMin.} Seedlings on burn.

Apparently does not crown-sprout*
after fire. ↑

Fire Area.

Crown-sprouting:

Rhododendron californicum

Vaccinium ovatum

Myrica californica

Umbellularia californica

- Cont. *Cotula coronopifolia* no. 17,767. It

is frequent in low moist places away from coast.

- *Myrica californica* Very broad rounded dense bushes, a feature of the table-land plain s. of Noyo. Bushes 8 to 14 ft. h., often broader.

* A quite bushy seedling 16 in. h. was uprooted. I could find no sign that it had been there before the fire. ^{I judge,} Fire about 4 years ago. ^(Later) Col. Gilman says there was a fire there about then.

Heiser's Bog, 2 1/2 mi. back of Noyo,
Mendocino coast, July 28, 1936.

No. 17,779. *Pinus muricata* Don.

The dominating tree in the "barrens".

See p. 73. (Box material).

No. 17,780. *Xerophyllum tenax* Nutt.

Everywhere extremely abundant on the floor of the pine forest. See p. 73.

No. 17,781. *Drosera*

No. 17,782. *Sphagnum*

This *Sphagnum* is exceedingly abundant in the Bog.

No. 17,783. *Gentiana sclopetum* Griseb.

No appendages in sili. Cor. blue, its tube finely dull-dotted. Cont. p. 139.

* Heiser's Bog, or Mass Camp Bog, 2 1/2 mi out on the Willits road from Noyo. Set in a dense stand of the characteristic pine barrens trees: *Pinus muricata*, *Cupressus pygmaea*, *Myrica californica*.

No. 17, 784. *Campamula*

Cor. light blue, truly campamulate
with recurving lobes. Calyx-lobes
↑spreading-
broadly subulate. Delicate plant, the
dried spm. The charm of this lovely little
Campula is lost in

No. 17, 785. *Sisyrinchium californicum*

Dry. Perianth yellow.

No. 17, 786. *Barex*

— About 2 mi. out on the Willits road we
stop at a cabin (from Noyo) clearing in the
woods and make inquiry of the wife of a
settler named Miller as to the location of the
sphagnum bog. We return to our cars on the
road, travel two hundred yards and turn to left
through a gate which is a few yards before the
"old road" to left turns off Willits road. We
travel this left road until a wagon trail turns
off it to left. We walk down this road a half-
mile and come to the moss camp—a place
where sphagnum has been collected and dried.
We follow a cut trail through the woods and
in about 100 yards come to the swamp. It is a
small swamp in a narrow depression,
forking here and there. Montgomery, the
head woodsman and cruiser for the Union
Lumber Co., is my guide. At the Moss
camp are 2 or 3 old shacks.

* that is the left road through the gate.

No. 17, 787. *Lomaria* ^{= *Blechnum*} *spicant* Desv.

This fern has dimorphic leaves. The
sterile leaves are not "nearly sessile on
short stalks".

Before me, in the forest, are two indi-
viduals of *Arctostaphylos columbiana*
19 ft. h.; trunks 2 to 4 ft. unbranched,
6 to 9 in. diam. at 4 inches above ground.
There is no question here; it does not
crown-sprout.

— *Pteris aquilina*. 8 ft. h.

— *Whipplea modesta*

No. 17, 788. *Hemizonia Madia exigua*
(S.M.) Gray

— *Alnus oregana*, fine trees.

No. 17, 789. *Deschampsia elongata* (Hook.)
Munro ex Benth.

This grass in an open forest.

No. 17, 790. *Spergula arvensis* L.

In an open.

No. 17, 791. *Psilocarphus tenellus* Nutt. var.
^{tenellus}

This Gnaphaloid in an open.

No. 17, 792. *Galium*No. 17, 793. *Hieracium albitorum*No. 17, 794. *Centaurium*
flats with open woods.

No. 17,795. *Navarretia squarrosa*

H.A.

In an open in forest.

No. 17,796. *Nymphaea advena* Greene.
nuphar polysepalum Engelm.
(Mt. Bragg)

— I meet here at the Guest House A.W. Stricker who has to do with the export business of the associated Redwood lumber companies and travels widely over the earth. An able keen well-educated man from Neuchâtel in Switzerland, he spoke English quite fluently, ^{he not always distinctly to me,} and I found him well-informed. I was amused to notice how narrowly he observed my personal habits: he commented on my non-use of coffee and tea, and tobacco. I replied that this was not due to any so-called Puritanism, but simply that tea and coffee does not taste good to me, and that smoking gives me no satisfaction whatsoever. I added:

It is fortunate, however, that I do
[Cont. p. 118.]

6 1/2 mi (air-line)

Cont.

(No. 17,796 from p. 116.)

These water-lilies are the pioneers in the reclamation of the lagoon. They grow in the deepest water, that is, the part of the lagoon where the water is deepest, forming pure colonies 1/2 of an acre to half an acre or an acre or two. Following after in the next shallower parts are the *Typhas*. ^{of *Nymphaea*,} Stigmatic rays 16, 15. Perianth dull pale yellow with a red-brown flush on outside.

No. 17,796a. *Carex*

In 8-12 in. water, Little Lagoon.

— I am brought into the woods back of Mendocino City (see bottom p. 119) by the woods foreman Walter Ball. At the "lagoon" he turns me over to one of his men, a young fellow named Leo Boyle, an intelligent chap. He tells me that the lagoon is nearly straight for a mile; at its upper end the walls

of the cañon rise sharply; the water is deeper at the upper end than at the lower end where the water goes out as a mere trickle. All this leads me to think that this peculiar formation represents a geological fault. Boyle says that in the wet season one can stick a pole down into the bog ten or twelve feet anywhere. In other words it is full of silt and the real bottom may be very deep. He says there is no other formation like it anywhere in this region. Cont. p. 121.

No. 17,797. *Carex*

See p. 127. Margin of lagoon; also in shallow water; forming an extremely dense zone along bank.

No. 17,798 *Glyceria pauciflora* Presl.

This grows in a foot of water, not erect, but the culms

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Mendocino Co.

trailing along the bottom and ascending to the panicle which stands out of water a foot or two. Culms 4 to 5 ft. long.

No. 17,799. *Brexpis Capillaris*

Open flats. Expanded heads 5-6 lines broad; fls. yellow. Common.

No. 17,800. *Centaureium umbellatum* Gill.

Open flats.

— All through the forest, in the most remote places, ^{Redwood} *Erechtites*

(No. 17,700) is frequent or abundant and behaving as much at home as if it had been there a thousand years or more.

— *Alnus oregona* occurs in the cañon bottoms, ^{river bottoms and flats,} and lagoon borders in quantity.

— On all logged areas *Cirsium lan- ceolatum* is common through these woods. ^{On all spots where man's spoliation is greatest.} I drove in with Walter Ball, woods boss, from Fort Bragg to Mendocino City,

Little Lagoon, Big River, $6\frac{1}{2}$ mi. back
of Mendocino City. (air-line)

thence over the five barrens and
then ascend the High-Clute Ridge^(see p. 197),
then down again to the river at
Little Lagoon. Boyle, the wood-
man, who shows me about, says
that in very high tides, the ocean
tides have been known to reach
Little Lagoon.

"No. 17,801. *Sparganium simplex*
Huds. In one foot of water.

"No. 17,802. *Agrostis exarata* Trin.
[Det. B. Crampton, July 1973]

This grass grows in a tuft.

"No. 17,803. *Madia gracilis* (Smith) Keck
Opens in woods.

"No. 17,804. *Sherardia*
Woods.

"No. 17,805. *Minimela moschatus*
Dougl. Cor. yellow, the lobes equal but
disposed as 2 upper and 3 lower,
lobes truncate, transversely quad-
rangular. Propagating by rootstocks.
Wet flat. See p. 126.

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"No. 17,806. *Adiantum*

"No. 17,807. *Campanula prenanthoides*
Dur.

"No. 17,808. *Athyrium*

Rank stools of fronds $3\frac{1}{2}$ - $4\frac{1}{2}$ ft. h.

"No. 17,809. *Polystichum muntoni*

Sturdy fronds 3 ft. long.

"No. 17,810. *Pityrogramma triangularis*
(Kaulf.) Maxon var. *triangularis*
A low fern in a wet place.
(Discarded, insect damaged)

"No. 17,810a.

On rr. track; alien

— Cont. from p. 118. I walk around the
lagoon; and at 4:00 I meet Ball who
takes me out over the High-Clute Ridge,
the way we came in. Not driving, I ob-
serve the country better ^{along the coast} and get a better
view of the Bishop Pine trees crowning
the cliffs at Russian Gulch and Casper.
↑ and headlands
Its variety of situation is remarkable; ocean
cliffs; dry flats and hillsides; marshy flats;

sandstone tableland of the Mendocino
barrens; protected cañons.

This morning, July 31 (Saturday) I
come again with Ball, this time to
Boyle's Camp, on Little North Fork of
Big River. Here we take the little flat
cars run by a gasoline engine and
go to Little Lagoon. Thence I ride
with the road crew to water tank
on way to log dump at end of rr.
line and make my way back on
^{foot} studying the vegetation as I go.
I am to meet the crew at 3.45
about, at Little Lagoon, and go out
with one of the woodsmen whom they
call Frank. (= Frank La Green)

✓ No. 17, 811. *Carex*

Leaves longer or mostly not
longer than culms. Forming dense small
colony on flat, neither leaves nor
stems erect, but "fallen over", recur-

lent, making a dense mat. Culms
 $1\frac{1}{4}$ to $2\frac{1}{2}$ feet long; I measure one
culm 5 ft. long!

✓ No. 17, 812. *Galium*

wooded hillside.

✓ No. 17, 813. *Sanicula*

on flat.

✓ No. 17, 814. *Osmorhiza*

on flat.

✓ No. 17, 815. *Madia madidoides* (Nutt.) Greene

Several stems from a small
woody root-crown which shows out as
two "stumps" or vestiges of last year's
stems. Rays 8, yellow, 3 to $3\frac{1}{2}$ lines
long about.

- *Zonchus oleraceus*

- *Petasites palmata*

- *Anthemis cotula*

- *Oxalis oregana*

No. 17, 816. *Adenocaulon bicolor*

Heads of fertile and sterile fls. Sterile fls. more in number than the sterile. Corollas (sterile fls.) 5-lobed, regular. Corollas of fertile fls. bilabiate: 3 lobes in lower lip, 1 in upper lip. Fertile fls. 1, 2, or 3, mostly on one side the head; sometimes 4, when 4 disposed around the circle. Shade of Redwoods.

No. 17, 817. *Geranium*

Dry ground in open flats. Petals white or pink, notched at apex. Stems diffuse or trailing, from a perennial root.

— *Baccharis douglasii*. Dry hillside, in open, — probably very wet in spring.

— Walter Ball, woods boss, says: "I came to California from New Hampshire when I was twenty. [He is now 55 or 60 I should judge.] Went to work on tan bark at Stewart's Point. There was a teamsters strike in San Francisco and the sailors ^{and longshoremen} went out in sympathy. The tan bark ship from S. F. came into Stewart's Point and recruited men to take the place of the strikers. I went on as a sailor and was taught to steer ship. There was no second mate and the captain took me on as second mate. Both the captain and mate were very rough with sailors. I got seasick and if I could then have set foot on land, never again would I have gone to sea. But the captain took a fancy to me and said: Walter I can teach you all the navigation you need to know; you can go to school

Little Lagoon, Big River, $6\frac{1}{2}$ mi. +
back of Mendocino City. (Air-line)
and I'll guarantee that in ten
years you can have a ship of your
own. Well, I left the sea and went
into the Redwoods for logging.
But I've often wondered whether it
would have been better had I
held by the captain's advice
and commanded a ship."

It is always interesting when
men speculate as to the wisdom of
life choice they made. It is also in-
teresting that no ^{true-blue} botanist ever indul-
ged such a speculation.

— *Circaea pacifica* Arch. & Mag. Deep red.
woods. Petals flabelliform-obcordate,
about $\frac{1}{2}$ line long.

— *Cont. Mimulus* no. 17, 805. Herbage
wet clammy. Stamens glabrous, the
lower pair the longer. Folds on palate
of lower lip densely short-hairy
and down into tube; also brown-dotted.

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rather-cell margins microscopically
hairy with very short hairs, that is to
say very short-ciliate. Calyx-lobes
subulate, only a little unequal, near

✓ no. 17, 818. *Siarella unifoliata*

This saxifragaceous plant
seems uncommon.

✓ no. 17, 819. *Veronica*

Springy spot.

✓ no. 17, 820. *Iris*

dry flats.

✓ no. 17, 821. *Holcus lanatus* L.

[det. B. Crampton, July 1973]

This grass grows on moist
banks.

✓ no. 17, 822. ~~*Selaginella*~~

(To UC) on floor of Redwood forest,
forming a colony on the ground.

— *Cont. Carex* no. 17, 197. This is by far
the abundant *Carex* throughout the Red-
wood belt in this region. It forms great
masses everywhere in bogs, lake mar-

ging and wet flats, I find no other *Carex* but that is relatively rare.

— *Pinus muricata* Don. At this point, just north of Jughandle Creek, the dense forest is a mile inland. But there is a thin broken line of these pines along shore and a few scattered trees in one or two clusters in between, but the mile wide band is mostly treeless meadow, utterly treeless to west of highway. The trees along the beach are characterized by picturesque crowns.

— Cont. *Lupinus* no. 17,729. Not even the racemes are erect! The inflorescence seems weak, poorly developed, of few verticils in the raceme, mostly 1, 2 or 3, — as if it were a hard year for them, or a dry year. The plants do not appear to set fruits but

weakly. And yet I think, ^{that} probably the condition referred to is normal — or at least the usual condition since over a long period of years the flowering and fruiting is of one character.

✓ No. 17,823. *Aster*

Jughandle Creek. Rays lavender-purple.

✓ No. 17,824. *Helenium bolanderi* Gray.

Jughandle Creek; open flats near sea.

✓ No. 17,825. *Juncus*

Low wet flats. Caspar

✓ No. 17,826. *Juncus*

With 17,825.

✓ No. 17,827. *Calamagrostis nutkaensis*
(Presl.) Steud. [Det. Beecher (Crampton, July 1973)]

This grass grew in mdw. in

✓ a thicket of *Iris*. Caspar.

✓ No. 17,828. *Iris*

Leaves dark glossy green. Meadow. Caspar.

✓ No. 17,829. *Eryngium armatum* C. & G.

no. 17, 830. *Juncus bolanderi* Engelm.
(det. P. Lubzoff, Jan. 1972)

Caspar (2 mi. S). This reed in very low wet place.

no. 17, 831. *Ulex europaeus* L.

The Gorse is very common on the roadsides between Caspar and Hoys. While I am studying it, a man comes along, evidently belonging in the neighborhood, who notices my interest and begins to talk about the gorse. The government, he says, has been fighting it and has taken it out of his field;— he points across the road, — saying the field (toward the sea) was filled with it. It continues to come back, after being destroyed, for four years. The fifth year it does not return — that being beyond the viable life of the seed. The pest took its start here from seed brought from England by George Plowman.

(a former local resident)

He is now dead. My informant says his ^{own} name is Eagle; he is English, having been born in Essex and reared there until nine years old when brought to U. S. The name might be Igel, or Egel. Poison Spray has been used on these roadside plants near to a point where I now am. The rank growth from here southwards must be cut, says Eagle, otherwise it would take ^{first} too much poison. [Later: Robert Colquhoun says his name is Eagle.]

It is possible that Colquhoun was speaking of this plant (no. 17, 831) and not no. 17, 696. Dr. Bowman (see p. 70 ante) may have been speaking of no. 17, 831.

— Robert Colquhoun goes with me for the trip to Brandon's Hill (see p. 132). He says Italians are the worst offenders in the matter of killing small birds not ordinarily killed.

Arctostaphylos nummularia Gray.
I note a particular shrub: 3 ft. h.,
depressed-rounded, branching low
with ^{3 or 4} spreading or ascending main
trunks, those as much as 3 in.
through at base. Bark thin-flaky,
noticeably so out to the 2-year
old branchlets, nowhere smooth.
I dig up a large bush (2 ft. h.
and as broad) on the fire area
near Heeser's bog and find no evidence
of crown-sprouting. It is a seed-
ling!

One of the notable features of this
species is the number of stems, from the
base; these are erect in the top and body
of bush. These many stems from the
base suggest root-crown sprouting
— but I get no evidence of such. The
plant does root by layering however.
On the pine barrens everywhere

Aug. 3, 1936.

this species is frequent or even
abundant. On the way into Brand-
on's Mill, about opposite Heeser's
bog, I note numerous well-developed
shrubs 5 to $5\frac{1}{2}$ feet high. The
bushes are always very dense —
composed of fine branchlets in
great number.

Nos. 17,832 to 17,834. not used.

— *Pinus muricata* woodland at Fort
Bragg. South from the Union Lumber Co.
mill at Fort Bragg stretches an area of
Pinus muricata preserved in primitive
condition. In this grove Mr. and Mrs.
B. R. Johnson had a picnic the day they
were married. Mrs. Johnson had a very
sentimental interest in regard to the
grove and each year on anniversary
wedding picnic was held there. Sep. p.
197.

no. 17, 835. *Vaccinium parvifolium*
Sm. Berry red. Bush with
erect, stems, 10 ft. h! Berries some-
times picked for food by the folk,
says Robert Colquhoun.

no. 17, 836. ^{= *R. macrophyllum*} *Rhododendron californi-*
cum Hook. 16 ft. h. Mr. Colquhoun says
of seedlings in his nursery: some have
round leaves, some long leaves.
↑ short

- *Cupressus pygmaea* Sarg.

No. 1. Tree by streamlet near Brandon's
Mill: circ. at 4 ft. from ground
on upper side, = 13 ft. 5 in.; at 1 ft.
from ground on lower side, 4 in.
from ground on upper side =
23 ft. 5 in. 95 ft. h., of which
55 ft. is clear trunk.

No. 2. Tree up stream, 20 yds.
at 4 ft. = 12 ft. 4 in.
"at ground" (1 ft.) = 17 ft. 120 ft. h.

no. 3. At 4 ft. = 5 ft. 3; at ground
6 ft. 1. 85 ft. h. Within a few feet of ^{no. 2.}

no. 4. At 4 ft. = 8 ft. 1 in.; at ground
= 11 ft. 11 in. 110 ft. h. About 15 yds.
above no. 2, up-stream.

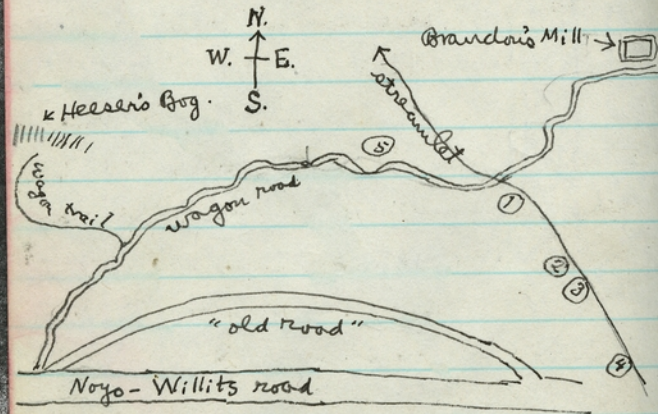
No. 5. On lower side of road about
100 yards westerly from no. 1.

At 4 ft., circ. = 13 ft. 8 in.

At ground = 18 ft. 10 in.

Height = 130 feet, of which
95 feet are clear trunk.

The finest looking tree of the group
of cypresses is no. 5. Its trunk goes
on up and up and up without mar-
ked diminution in size. This feature
in connection with its rounded
crown gives a little suggestion
of *Sequoia gigantea*, so surpris-
ing is it to see so large a
cypress with this architecture.
The trunk is light-brown (cont.) (p. 139.)



Map of location of *Lupinus pygmaeus* gigante. Nos. 1 to 4 are trees south of road. Tree no. 5 is north of road. See measurements pp. 134-135 ante. So near I could judge in the dense tangle there are about 25 adult (large trees) of this species, mostly upstream above no. 4. There are several large dead trees of this species.

My companion this day is Robert Colquhoun, Union Lumber Co. See p. 195.

— Cont. 3 *Fuchsia* no. 17,754. This is not uncommon along the coast line. When one sees a cluster of it, its flowers make a brave show; it is quite ornamental.

no. 17,837. *Xerophyllum tenax*

Abundant on the fire-burned pine barrens. At this spot most plants have been flowering this year, now in fruit. $2\frac{1}{2}$ mi. back of Noyo, near Heeser's Bog.

no. 17,838. *Veratrum fimbriatum*

Gray. Perianth-segments with a somewhat claw-like base but this very broad, with 2 yellow spots (transverse) at apex, the "limb" ovate, finely and conspicuously fimbriate-margined. Sides of "claw" entire except at apex.

Perianth white. Filaments dilated at base, their anthers closely approximate around styles, but shorter than styles ($\frac{3}{4}$ as long as styles + ovary). Styles distinct. Stems conspicuously white curly-pubescent. Leaves glabrous.

Streamlet $\frac{1}{2}$ mi. westerly from Brandon Mill. Yellow spots = largest diam. transverse.

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No. 17, 839. *Helianthemum*On pine barrens, 2 1/2 mi.
back of Noyo.No. 17, 840. *Ledum glandulosum*
Nutt. Heeser's Bog, back of Noyo.No. 17, 841. *Lilium* ~~*Fritillaria*~~

Corolla small, about 1
in. long. Petals very deep red,
almost burnt amber, slightly
yellowish-tinted and purple-dotted
down in tube. Petal-tips spread-
ing or slightly recurving. Flower
nodding! Rootstock vertical;
scales of bulb with an obviously
acutish apex. Leaves at middle
of stem. Heeser's Bog.

No. 17, 842. *Lilium Fritillaria*

Heeser's Bog. Rootstock horizontal. Scales
of bulb not so obviously acute
as in preceding (this seemed a point

in the field and was so written
down at the time but is not so
obvious now). Leaves in a basal
whorl! and scattered on lower
half of stem. Capsule erect.

- Cont. *Gentiana* no. 17, 783. The
rootstock with a cluster of cord-
like roots. Stems ascending, not stiffly erect
as in *G. scaptrum*. Leaves small, thickish.
Stems only 1-flowered.

No. 17, 843. *Arctostaphylos*.

columbiana var. *trasegi*
Stems from a broad woody
platform. Pine barrens near Heeser's
Bog, back of Noyo. Shrub 2 1/2-3
ft. h.

- [Cont. *Bupressus pygmaea* from p.
135 at bottom.] smoothish, fissured
longitudinally into strips 2 or 3 in.
wide, but the general effect smoothish.
One understands the ex-
current habit by observing a col-

ony of young poles just across the road from no. 1. This close-set cluster has six trees in it, their trunks only 1 to 2 feet apart. The axes are excurrent; there are only short lateral branches - that is forming very narrow columns. On the outside of the cluster the area is open for extension or production of long branches but such are not formed. The poles in this cluster are 28 to 36 feet high. A few of the cluster are measured:

No. 1. Trunk circ. = 1 ft. 3 in. at 1 ft.

" " = 1 ft. 10 in. at ground.

No. 2. Trunk circ. = 1 ft. 5 $\frac{1}{2}$ in. at 1 ft.

" " = 1 ft. 10 in. at ground.

- *Arctostaphylos columbiana*
Trees by road betw. Heeser's Bay and
Brandon's Mill:

no. 1. 22 ft. h. Trunk 2 ft. 8 in.
in circ. at 1 ft.; trunk branches at
(Cont. p. 147)

- A few miles north of Fort Bragg I see a sign on east side of road, "Laguna Beach Park". About opposite this is a tableland sloping west to the ocean and densely covered right down to the sea with a splendid grove of *Pinus muricata*.

- *Epilobium angustifolium*; fills the fence rows in places. Clone.

- The sand dune area at Juglenook is rather large, perhaps 3 mi. wide and 5 or 6 mi. long. The front of the dunes appears to be still taking form at Juglenook.

- *Baccharis pilularis* DC. Filling the fence rows opposite the Juglenook sand hills. Erect, 4 to 6 ft. h.

- *Miconeria douglasii* Bth. on banks in the open by Juglenook.

- How often it happens in this country: a wooded hillslope (*Pseudotsuga taxifolia*, etc.) with *Umbellularia californica* at the top and sticking a

bit above the line of the ridge,
furrowed - wind-controlled, but on the
windward side, meadow! The Douglas
fir does not exhibit wind control
like the Laurel, californica

— At Blone (and elsewhere on this
coast): Myrica californica, rounded
shrubs, thick, scattered a bit in
the fields, sometimes with an app-
earance of order or spacing and
mightily suggesting an orange
grove!

— The showy composite at Albion (no.
17,688) is frequent along the whole
coast line north to Westport.

No. 17, 844. Galium

on bank in mdw.

No. 17, 845. Solidago

Common in the meadows.

No. 17, 846. Convolvulus luteolus
Gray.

In same thicket as 17,847.

No. 17, 847. Clarkia amoena ssp.
Goldf. & Whitney (Gray)
Small Leavis Leavis

Grandiflora (Stemless plant; large cor-
ollas with a prominent blotch in
center of petals; petals crimson; cap-
sules much thickened at middle,
oventish each way — in a sense
somewhat rhomboid. Thicket of
Rubus vitifolius and Baccharis
pilularis. Petals, better, pink, with
large crimson blotch $\frac{1}{3}$ size petals.

No. 17,848. *Corethrogyne* ~~obovata~~ ^{Benth.}
Cont. p. 146. Open meadows. Rays lavender.

No. 17,849. *Lupinus* Discarded 9/85

Stems many from base, erect, branching high; corolla blue, the banner whitish except on sides below where bluish; banner soon turning blue. Keel with acum. at right angle; acum. purple; keel ciliate $\frac{3}{4}$ way down. This shrub is now well past flowering; it is full of pods; but there are occasional fls. on various shrubs here and there.

Open mdw. by sea - 1 mi. inland.

No. 17,850. *Linum nitatissimum* L.

About 1/5 of plant taken.

4 ft. h., erect. Petals blue. Also noticed s. of Ft. Bragg. Also at Phillipsville.

- *Chrysanthemum* (same as 17,688). Seaside Ck.

- Seaside Creek 1 mi. n. of Ten Mile.

No. 17,851. *Diplacus*. See p. 145.

- *Heracleum lanatum* A great show of it on the bluffs at Seaside Creek, north of Fort Bragg.

- *Senecio jacobaeae* Meadows n. of Seaside Creek. Same as no. 17,691.

- *Convolvulus arvensis*. Kibisillah Creek.

In order from south to north:
- Kibisillah Creek, Brewer Gulch, Westport Gulch, Charles Gulch, Westport.

- *Grindelia* Westport. Same as no. 17,713. Ft. Bragg.

No. 17,852. *Eriophyllum* 4 ft. h., 6 ft. broad bush. Juan Creek.

Sea-cliffs. In order from south to north:
- Union Landing, Juan Creek, Rockport.

- Continued *Diplacus* no. 17,851.

Open seaward slope. Bush $3\frac{1}{2}$ ft. h. and broader, very floriferous.

No. 17,853. *Melica harfordii* Boland. Grass, 4 to 5 ft. h., heavy stools. Near

bridge over South Fork El River
near mouth of Hollow Tree Creek,
within about 2 mi. of Hickey Grove.

- Cont. *Corethrogyne* no. 17,848. Stem
several to many (!) from the root-
crown, ascending. Open hillslopes.

Aug. 4, 1936

I travel from Fort Bragg (cf. p. 141
ante) to Juan Creek (p. 145) and by the
Hollow Tree road to Leggett Valley. Hence
I run by the Redwood Highway down
the South Fork El River to Philipville.
Here Prof. E. Fritz and his family are liv-
ing in a summer cottage. There is another
very comfortable cottage up the hill 50 yds.
which is placed at my disposal. I find
it extremely convenient.

Cont. *Arctostaphylos columbiana*
from p. 140 at bottom: about 1 ft.; there
are 2 forks which are unbranched
for 5 to 6 feet: one fork is 2 ft.
2 in. circ., the other 1 ft. 8 in. circ.
The crown is 38 ft. broad!

No. 2, Trunk 2 ft. 10 in. circ. at
1½ ft.; 2 ft. 9 in. circ. at ground.
[As I later recall height, about
16 ft. h.).

No. 17,854. *Melissa officinalis* L.

Cor. white; lower pair of stamens the longer. Palate of cor. a little short-hairy with spreading hairs. Calyx 2-lipped, the upper lip cuspidately 3-toothed, the central tooth short-deltoid (broader than high); lower lip deeply divided between the aristate teeth. Style and stamens glabrous. Stamens inserted high in throat. Tube of corolla short-hairy in bands or patches but not with any definite horizontal ring*. Leaf ovate, crenate-margined, truncatish at base, petioled.

* There is a zone of longer spreading hairs, an oblique ring, which might be called a ring. The hairs are longer than the ^{scarcely} hairs of tube.

No. 17,855. *Gasteridium ventricosum* (Lour.)
Schinz + Thell.

This grass, a now dried-up annual, is abundant on the "open" - clay slopes.

No. 17,856. *Umbellularia californica* Nutt. The leaves over the entire crown are, many of them, injured by some fungus disease. The spurs. are taken on account of the remarkably long fruit pedicels!

No. 17,857. *Quercus Kelloggii* Newb.

The leaves in this form of the species are very deeply lobed.

No. 17,858. *Pseudotsuga ^{menziesii} latifolia* (Merr.) Franco
Bart. Tree beautifully loaded with the hanging cones, presenting a fine sight.

- A road of the one-way country kind leads up the range through the ranches to the westerly end

of Bear Butte. We, Professor Frity and I, travel up into the "balds" amongst the little ranches (one or two sections each) as far as a point about opposite the easterly end of the Butte. We are north of the Butte.

It is beautiful park-like country amongst the "balds" - fine groups of trees. One wall of foliage I note particularly: *Umbellularia californica*, *Acer macrophyllum*, *Aesculus californica*, *Pseudotsuga taxifolia*, *Arbutus menziesii*, *Sequoia sempervirens*, *Passania densiflora*, *Quercus kelloggii*.

No. 17, 859. *Elymus glaucus* Buckl.

This grass grows in small tufts on steep hillslopes.

No. 17, 860. *Melica harfordii* Boland.

This grass grows with 17,859.

No. 17, 861. *Epilobium paniculatum*

Corolla pink. Petals deeply cleft, much longer than calyx-lobes.

No. 17, 862. *Epilobium*

Corolla white. Petals cleft shortly at apex, scarcely longer than calyx-lobes, sometimes just equaling them.

- We, Professor E. Frity and I, stop at a point 1 mi. n. of Richardson Grove, where there is a road full of 5 to 16 feet about Redwood trees. Some of them will live through it, some are dying, says Frity. Roots are put out from the trunk into the fill above the old ground level. I understood him to say, (Cont. p. 152)

No. 17, 863. *Brickellia*

Stems many from the root-crown, ascending; perhaps the better term were "spreading", since the stems are quite straight and diverge from nearly horizontal to nearly erect. Hillslopes, loose soil.

No. 17, 864. *Pentstemon corymbosus* Benth. Loose hillslope in rocky soil. Stems diffuse.

No. 17, 865. *Brickellia californica* (T. & G.) Gray Richardson Grove, South Fork Eel River, Aug. 8, '36; gravel bottoms or bars of river.

— Redwood, cont from bottom p. 151. These ^{the conditions imposed by} facts: living through a fire; putting out adventitious roots above the ground level; the forming of a callus or bulbous enlargement at root-crown in seedlings—

all this must be added to the evidence regarding the tremendous, the unexampled vitality in this species. Note also the point made by Rolt. Colquhoun as to ease of seedling transplanting (cf. p. 66 ante).
— Cont. *Pentstemon corymbosus* from p. 152 (no. 17, 864). Infl. and corollas very glandular-pubescent.

— Cont. from p. 111, no. 17, 776. It is my judgment this strange specimen represents *B. affinis* H. & A. transformed by parasitism.

We take a walk, starting from the Wood Cottage opposite Philipsville, up the slope of the hill by an old trail that leads to a long abandoned settlers place. It is a fine walk through very beautiful woods. There is a group of *Quercus chrysolepis* in a swale where the trunks are ^{slender and} very tall with narrow crowns high in air, trees about 95 ft. h. About the site of the settler's house are heavily loaded apple trees, pear trees, big trees with green fruit, a fine quince tree, a Persian walnut.

No. 17,866. *Mantha rotundifolia* L.

Cor. white; lower lip with 3 equal ovate lobes; upper lip quadrate, truncate, obscurely notched; stamens with anthers 4, subequal or the lower pair slightly longer, inserted on throat of corolla. Style glabrous; stamens glabrous. Calyx-teeth unequal, the lower 3 the longer slightly; of the 2 upper one is often 2-cleft. Calyx hairy-pubescent. Corolla, ^{a little} short-hairy with spreading ^{externally} hairs. Leaves large*, pubescent. cf. no. 17,872 in which the leaves are noticeably small and glabrous.

* Only in the sense of comparison as indicated.

No. 17, 867. *Baccharis douglasii*
Springy spot on mountain
side.

No. 17, 868. *Coronilla nuttallii* Aud.

Wooded hillside.

No. 17, 869. *Cytisus monosperma*

May originally have been
planted about this settler's cabin (cf.
p. 154) but is now freely spontaneous
in the area reverted to the forest
wilderness. Shrubs 8 to 14 ft. h. ^{See p. 158.}

No. 17, 870. *Vitis californica* Bth.

Berries of the grape clusters seem
to me larger than in the case of
Sacramento Valley vines.

No. 17, 871. *Juncus*

Moist spot at what
^{formerly} was an "open" by the settler's
cabin (cf. p. 154) but is now over-
grown with trees and shrubs. This

heavy tuft of the rush is still veg-
etatively luxurious, but fruiting
seems as if it might be weak.

No. 17, 872. *Menziesia pubescens* L.

Colony in flat by big California
^{tree} Laurel at Philipsville. Corolla pale
lavender; upper lip entire! all the 4
lobes (the 1 upper and the 3 lower)
equal in length and size, all broadly
oblong and obtuse, the middle lobe
of lower slightly ^{only} acutish, and thus dif-
fering from the lateral which are
obtuse like the upper. Stamens a
little exserted! the lower pair the
longer. Calyx-teeth equal in length,
the 3 upper narrowly triangular,
cuspidate, the 2 lower subulate!
Corolla-lobes lightly hairy outside;
also tube. Calyx pubescent. Style
and stamens glabrous; cor. glab.
inside. Stems puberulent; leaves glab.
- over -

Aug. 12, 1936.

Calyx - teeth $\frac{1}{2}$ as long as tube, ^{as long as} _{cor-tube.}
 — Gynaeceum no. 17,869 cont. Where it has
 seeded, the stems stand as close as
 stalks in a wheat field.

*No. 17,873. *Verbascum thapsus* L.

Stems always unbranched,
 except in the infl., 4 to 7 ft. h! Spikes
^{or sometimes} $\frac{1}{2}$ to $1\frac{1}{2}$ (or even 2 or $3\frac{1}{2}$) feet long.
 Large leaves mostly basal or sub-basal;
 decreasing in size upwards, clothing
 thickly the stem. Inflorescence un-
 branched, or about half the time
 with one smaller or supplementary
 spike. Cont p. 159.

*No. 17,874. *Trichostema lanceolatum*
 Bth. Open fields

*No. 17,875. *Chrysopsis*

Gravel bars and lowest ter-
 race of El River South Fork, colonizing
 these areas or dominant on them
 for one-eighth mile. Stems in tufts.

*No. 17,876. *Xanthium canadense* Mill.

*No. 17,877. *Artemisia dracunculifolia* L.

Pure colony of $\frac{1}{2}$ acre on
 second terrace of the river.

*No. 17,878. *Elatinoides elatine* (L.)

Wetstein. Rather common in the pasture
 at Elkhorn auto camp, near Philippsville.

— Cont. *Verbascum thapsus* no. 17,873

This introduced plant is so common
 about the state in its proper climatic
 belt and so uniform in habit and
 characters that I have seldom
 taken the trouble to collect but merely
 made note of a locality. It was one
 of the earliest of the aliens to enter
 the Sierra Nevada and I will remem-
 ber as a lad its tall stalks scattered
 through the Yellow Pine belt of the central
 Sierra Nevada. Here at this spot I made
 note on a fine locality (Cont. p. 161)

No. 17,879. *Lotus purshianus*

Stems several or many from the base, branching, decumbent or ascending. Corolla: keel and wings whitish, erect, the pecumen of keel yellowish, the wings inflated; banner pink with darker veins, spreading horizontally or a little recurving.

No. 17,880. *Antirrhinum* ^{*var. Kell.*} *vestillo-calyculata*

Upper lip small shortly cleft into 2 diverging short lobes. Lower lip with a strongly inflated palate which closes the throat and terminates in 3 oblong lobes. Cor. light purple, more or less hairy outside. Stamens glabrous; lower pair of filaments dilated at summit into spatula or flat spoon-like structures. The branchlets are prehensile when they have a clawer. This grew in open, but one branchlet was noted seizing another branchlet on same plant.

(Discarded, insect damaged)

No. 17,881. *Lactuca*

On road fill; 3-4 ft. h.

No. 17,882.

This galioid plant on a road fill.

— Cont. *Verbascum thapsus* no. 17,873 from Bottom p. 159. on the upper river bench. Having made notes it is incumbent on me to take specimens since notes to me lack value in greater or less degree without supporting specimens. The decurrent leaf bases, broad and undulated, ornament the stem.

No. 17, 883. *Monardella villosa* ^{hybrid}
River bench

No. 17, 884. *Rhamnus californica*
Esch. *typica* C.B. Wolf

No. 17, 885. *Oenopodium botrys*
Sand flats of river terrace.

No. 17, 886. *Artemisia* ^{douglasiana Bess.} ~~vulgans~~
var. *heterophylla* Jepson. Common.

No. 17, 887. *Glenatis ligusticifolia*
Nutt. Revisé diag. p. 392. Man.: Stems
trailing or climbing over bushes or trees,
6 to 15 feet long; leaflets ³ lobed, or
coarsely 1 or 2-toothed on each side
about midway, or sometimes entire;
sapids * * pubescent (not tomentose);
laete "acute". "Cyms" not "leafy-
bracteate" in this material. The trail-
ing stems root when they touch
the ground.

Aug. 12, 1936.

No. 17, 888. *Arctium minus* Bth.

Open flats, in shade of redwoods.
Herbage pubescent, the leaves pale
below, green and nearly glabrous
above. Revisé Man. p. 1168.

No. 17, 889. *Solanum nigrum* L.

Stems diffuse, 4 1/2 ft. long.
Valley flat.

No. 17, 890. *Cirsium lanceolatum*

Stems erect and branching
above, or bushy - branching from
the base, 4 to 6 ft. h. Stems
well-armed with the spiny recur-
rent leaf-bases.

No. 17, 891. *Cirsium arvense* L.

Dry flats.
4 to 6 ft. h., stems erect, slender.

- Prof. E. Fritz made a witty remark today
by referring to the Asael F. Hall Cham-
ber of Commerce.

No. 17,892. *Helenium puberulum*
Woods, moist flats.

No. 17,893. *Dactylis glomerata* L.

This grass grows in woods,
in half-open places; dry flats.

No. 17,894. *Physocarpus capitatus*
Woods.

All the above (17,892-4) were col-
lected in Franklin K. Lane grove.

Aug.
13. Tuttle Ranch, n. of Garberville.

No. 17,895. *Aster radulinus* Gray.
Dry grassy hillslope, open.

No. 17,896. *Carex gairdneri*
Colony of $\frac{1}{2}$ acre, dominant
on dry open hillslope; wholly in fl.

No. 17,897. ~~*Erigeron*~~ ^{*Longya*} *canaden-*
sis (L.) Long. Dry hillslope. Leaves
rather more serrate than usual.
Note pubescence and ciliate leaves.
Philippsville, Aug. 13, 1936.

From Philippsville, we, the Fritzes and
I, drove to Scotia for luncheon, thence
to Altos, where we turned off up the
Van Duzen River. At Carlotta we made
a call upon Mrs. Charlotte M. Wilder.
A most pleasant woman with a quiet
charm, who received us with a ^{gracious}
manner. Her parents lived in Utica,
New York; her family and herself
she considers New Yorkers, but she
herself, was not born in Utica. Her
father was a decorator and in the
course of his work he was called to
New Jersey for two years. During this
period Mrs. Wilder was born. Not
long after her birth the family re-
turned to their old house.

We talked about the desolating
destruction of splendid Redwood stands
by logging. Then the conversation fell
on the varied common names for

one species. Mrs. W. explained to a Civilian Conservation Corps boy* that in Southern California our native Laurel is called California Laurel, in Humboldt it is called Pepperwood and in Oregon it is spoken of as Myrtle. (This boy listened intently and then exclaimed: Great Poison Onions! Don't those folks up there know anything at all!!")

Mrs. Wilder was much attracted to Mrs. Fritz. When we were (Cont. p. 168)
- Logged area, Redwood, Van Duzer River Valley, 2 mi. e. of Carlotta amongst the stumps, a wilderness of noxious weeds!! *Cirsium lanceolatum* 6-7 ft. h.; *Erechtites prenanthoides* (abundant, 5-6 ft. h.); *E. arguta*; *Erigeron canadensis*, 5½ ft. h.

* Boy Scout, who said in 1937

No. 17,898. *Graphalium japonicum* Thunb.

This composite is an alien new to California. It seems quite at home in logged redwood lands.

No. 17,899. *Epilobium adenocaulon* Hausskn. Cor. small, white, turning pink in drying. A common species with the aliens in the weedy areas on the logged lands. In the forested area, now mainly logged, it looked the same as no. 17,682 collected near Richardson Grove.

No. 17,900. *Cirsium edule* Nutt.

Common on the logged areas; past its prime; 6 to 11 feet h.!!
erect, and strictly branched.

No. 17,901. *Stachys* ^{*rigida* ssp.} *quercetorum* Hel.

The corolla looks like *S. jugoides* of the Bay region; pink.

~~Shrublands Co.~~

- *Achlys triphylla*
- *Tiarella unifoliata*
- *Oxalis oregana*

No. 17, 902. Rosa

This, 4 to 7 ft. h., has a very dif. look in its fruit from *R. californica*; so much so that the bush presents a different appearance. Strongly sta., Van Duzen River.

- Cont. from middle p. 166. Leaving, Mrs. Wilder put her arms around her guest and said: "I hope you will come again. I feel as if I had known you always." In this

way she expressed pleasure in meeting a highly congenial spirit.

No. 17, 903. Woodwardia ~~radicans~~ ^{fimbriata J. Sm.}

Redwood forest, flats, Grizzly Creek.

- See note top p. 170.
- *Abies grandis*. Very fine trees
- *Castanopsis chrysophylla*, a fine tree 110 ft. high noted. It is a pole up to about 75 ft.
- Last night I stopped at the Eureka Inn (room and bath \$3.00). The Fritz family also stopped there, as they are traveling northwards now, having given up their cottage at Philipsville on the South Fork. cf. p. 147 ante. This morning I look up Jos. P. Tracy at his home and he agrees to go for the day to the Klamath. We join Prof. E. Fritz ^{near Wilson Creek} and he takes us on a woodman's trail which is noted top of next page.

- *Goodenya menziesii*. In fl.

- *Senecio sylvaticus* noted and collected by Jos. P. Tracy

WE (Professor E. Fritty, Jos. P. Tracy and myself) pick up a woodland trail at a point on Coast Highway by culvert B. 258-65 and work easterly. Fine stands of *Rhododendron californicum* 12 to 18 feet high, in places making a perfect canopy is an understory. It is a deep dark forest of Redwood, *Abies grandis*, Douglas Fir, Tan Oak, Giant Chinquapin (see p. 170). One specific errand is to re-discover (Cont. p. 173).

- Jos. P. Tracy says: "*Erechtites arguta* was introduced ten years before *Erechtites prenanthoides* but never became common as the latter, which has been here for twenty years. *Erechtites prenanthoides* was nearly exterminated in the great freeze of December 9, 1932; after that set back it has taken four years to recover."

Everywhere I see *E. prenanthoides* in huge colonies wherever there is a bit of open in the forest or wherever a shaft of sunlight can filter through. Great dense masses of these plants, unbroken colonies, standing 4 to 6 ft. h. deface the forest. I say deface, because so soon they look ragged, untampt, weedy. In deeply shaded portions of the forest one does not find it usually. Not so much because of the deep shade as that it does not get in well when there is already an established ground cover. However, I did not notice it on the deeply forested ridge country between Wilson Creek and Mill Creek in Del Norte County, where there is a scant herbaceous ground

cover, though this species may not have had time to invade this territory. No other alien in Redwood country is so odious to me. It is amazingly aggressive and usurps territory everywhere - logged lands as well as unbroken forest. For long I had deluded myself with the idea that the Redwood belt was of such a character that it had the power to hold itself inviolate by aliens. All my life I have noted Redwood forest as primitive - as maintaining its primitive populations. Now all that fond idea has vanished with the onslaughts of this marauder from the southern hemisphere.

-Cont. from p. 173 at *. He says he knew the plant well as a young fellow in the eastern U. S.

No. 17, 904. *Dactylis glomerata* L.

This grass grows in clumps of fern and bramble (*Rubus*).

No. 17, 905. *Aster*

Fls purple. Open slopes.

No. 17, 906. *Solidago*

Weedy thickets
(Discarded, insect damaged)

No. 17, 907.

This white, composite is not common here. ^{fls} open slopes.

-Cont. from p. 170 at middle. *Monotropa uniflora* which Professor Britz says that he saw a half-mile in, on this trail, when inspecting the forest with a party of foresters about seven weeks ago. We were unable to find even any remains. *Cont p. 172

* Within 2 mi. of Wilson Creek, a better name to use on account of its permanent character and by reason of its being on maps. Ocean View Terrace is merely a "hot-dog" stand.

- *Lysichiton* (no. 17, 916).

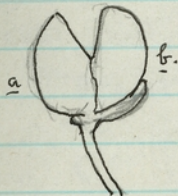
Leaves commonly 3 ft. long, often 4 ft. long; quite erect. Marsh near Still's ranch, 2 mi. S. of Fields Ldg.

- *Lupinus* "*sinularis*" of Humboldt Coast:

Stems many from a decumbent ^{several} woody persistent base of previous year. This is different from the habit of *L. latifolius* which dies clear back to root-crown, and stems short in spring from ground. "*L. sinularis*" begins to develop new leaves in midwinter. cf. no. 12, 929.

This is not uncommon on banks south of Still's ranch.

Mr. Tracy suggests that it may possibly be the same as the original *L. sinularis* of Ore. & Wash.



a. = banner.

b. = wings.

"

Flower rounded, as seen in side view. Sides of banner turned sharply or at least closely back.

Wings and banner purple. Wings inflated. Lower calyx-lip is entire. Upper lip shallowly cleft at tip. no. 17, 929.

- I notice in going about with Jos P. Tracy that he is very sharp-eyed. So be sure in most places, on account of familiarity of the ground, he knows what to look for; but even so rare things in this luxuriant mass of vegetation everywhere are often difficult to see. Indeed in every place about the state it requires a different art to see things. You sometimes find them in the Mokawa Desert, the San Joaquin, the High Sierras.

✓ No. 17, 908. *Juncus effusus* L. var.
pacificus Fern. & Wieg. This is the stout-stem-
med form. Marsh. Cont. p. 181.

✓ No. 17, 909. *Juncus effusus* L. var.
pacificus Fern. & Wieg. Slender-stemmed form.

Both this and the preceding grow
in very very heavy clumps, mixed
in the same marsh. This appears
to be more scaly at base of
stems than no. 17, 908.

✓ No. 17, 910. *Triglocha gemiflexa* Nutt.

This, according to Mr. Tracy,
is becoming rarer. He knows it only
in this swamp and at Freshwater.
Here, it is now difficult to find. It
is not flowering or fruiting this
year. It occurs in clumps of
the blackberry (*Rubus viti-
folius*) and rushes.

✓ No. 17, 911. *Epilobium* ^{Watsonii} *Barbey* var.
franciscanum (Barbey) Jap.

✓ No. 17, 912. *Rosa nutkana* Presl.

✓ No. 17, 913. *Aster*

Rays lavender.

✓ No. 17, 914. *Polygonum fusiforme*
Greene

✓ No. 17, 915.

This umbellifer is not
in fl. or fr. this season.

✓ No. 17, 916. *Lysichiton kantschaticense* (L.) Schott. See p. 174.

✓ No. 17, 917. *Nyssa viridiflor* Sm.

✓ No. 17, 918. *Carex gairdneri*

Dry hillside

✓ No. 17, 919. *Guaphalium palustre*
Marsh.

✓ No. 17, 920. *Agrostis alba* L.

This grass grows in a
weedy thicket.

No. 17,921. *Callitriche marginata* Torr.

In mud in marsh.

No. 17,922. *Rosa nutkana* var.
~~*hispida*~~ *setosa* Jones. Thicket bordering marsh.

on the hill slope edge of marsh.

No. 17,923. *Agrostis alba* L.

This grass has erect stems arising from very long or running or decumbent stems.

Thickety place of grass and weeds.

No. 17,924. *Grindelia*

flats.

No. 17,925. *Linum catenatum*

Common weed in

many places in this region says Mr. Jos. P. Tracy.

No. 17,926. *Leontodon leucoseri*

Notice, says Mr. Tracy

here in the field, that the marginal achenes have only a coronal pappus, that they are embraced

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(3 mi. s. of Fields Ldg.).

by involueral bracts in a radioid way, that they are persistent long after the other achenes have fallen, and that they spread radially. This is common on pasture flats in this region. It is easily mistaken for *Hypochaeris radicata*.

No. 17,927. *Cirsium arvense* Scop.

This Canada Thistle

I see in colonies in thickets in many places in this region.

No. 17,928. *Rumex conglomeratus* ^{mon}

No. 17,928a. *Lupinus*. See p. 181. Discarded

No. 17,929. *Lupinus*

See notes on p. 174.

-J. P. Tracy A young fellow named Stuart Kimball I says:
Harvey who is connected with the Gray Herbarium spent the summer at Fernbridge. He made collections. He married a girl whose home is Fernbridge; and they go there for vacation.

✓ No. 17,930. *Cicuta*

Salmon Creek marsh, s. of

✓ No. 17,931. *Corethrogyne obovata*

Benth. Grassy flat; rays lavender; Arcata "Bottom".

✓ No. 17,932. *Spiranthes*

Grassy flat, Arcata Bottom.

✓ No. 17,933. *Potamogeton natans* L.

Mad River

No. 17,934. *Populus trichocarpa*

with 17,933.

✓ No. 17,935. *Populus trichocarpa*

With 17,933.

These two shoots of folder came from one individual !!

✓ No. 17,936. *Mentha ~~canadensis~~ L.*

arvensis L. var. *villosa* Cov. lavender.

with 17,933.

✓ No. 17,937. *Minutanthus pilosa*

Greene. with 17,933. Sand Bars of river,

✓ No. 17,938. *Trifolium microcephalum* ^{Pa.}

With 17,933. Sand Bars of river.

✓ No. 17,939. *Mentzelia laevicaulis*

With 17,933. River gravel

Bars.

- *Alnus rubra* is one of the features of the region. Along roadways it sometimes forms a beautiful screen of foliage; it makes dense groves in swamps or low places.

- of the two *Junci* (nos. 17,908 and 9)

Mr. Tracy finds them together without intergrades. He would like to think of

them as distinct species. We are now looking at them in the swamps near Still's ranch south of Fields Edg.

- *Lupinus* cont. from no. 17,928, a. Abundant colonies by road (old concrete road) on hillside 3 mi. s. of Fields Edg.

Specimen Discarded 9-85

The nights of August 16 and 17 I stopped at the home of Jas. P. Tracy, my former student, and for 35 years a student of the flora of Humboldt Co.

He lives in the old Tracy home, 1004 I st. The house stands on the corner of a street, is a very ample two-story dwelling built very long ago. Doubtless the house was built by his father. It is furnished in the old-time style. Some of the parlor chairs would be prized by antiquarians.

Mr. Tracy has his herbarium in a room off his bedroom on the second floor. It is well filled with air-tight herbarium cases and there are formidable bundles of plants on the floor, awaiting study. Practically all this

material has been collected by himself. He gets some time for study in the winter but not much in the summer. One of the great pleasures in meeting him is to listen to his discourse on the habits of the native plants, and the entrance of the aliens.

He and his sister, who is a teacher in the Eureka schools, live together. He is a little slight man, but is now noticeably getting stouter.

- *Brunella vulgaris*. Mr. Tracy asks if there are two forms here in Cal.?

Today, Tuesday, Aug. 18, I leave the house of Jos. Tracy at Eureka and drive south to Ferndale and then begin to climb the rough road over the Wildcat Ridge. Near the summit, at 11:30 I stop to survey the ranges east. A little north of east, in the Inner Coast Range I judge, are two lofty summits higher than all the ranges in sight north or south. They stand close together and the two look like Mt. Diablo but a little broader and flatter against the sky. Very likely North Yolla Bolly?

At this point: *Alnus rubra*; *Pseudotsuga taxifolia*; *Abies grandis*. Note the altitude, probably 2000 ft., for the *Alnus*.

Far to the north (N.E. from here) are some fine high masses but the peaks too dim in the smoke haze to define. (Possibly illusions of cloud and haze)

The spot noted as "near summit" is ^{p. 184} rather far from summit, but must be, I think, at least 2000 feet. I note the dense pure masses of *Alnus rubra* in swales at the head of cañons.

- *Pterosites palmata*.

No. 17,940. ^{Clarkia} ~~Godetia~~ amoena Link.

Forms lovely shows on open banks. Petal spot very prominent. No. 17,941. *Gentiana oregana* Gray. 1 or commonly 2 subulate appendages in each sinus of corolla. Stems several from a thick root-crown and thick root, ascending! Grassy bank.

No. 17,942. *Rhamnus Purshiana* DC.
10-12 ft. h.

No. 17,943 *Calamagrostis metkaensis* (Presl.) ^{Speng.}
This grass grew in ^{small} thickets on an open bank; west exposure.

After leaving the Wildcat Ridge
 I dip down into a hollow ^(Old Creek) and
 climb out onto a bare broad ridge
 [Bear River Ridge] no trees save in hollows, wide
 expanses of easy grassy slopes.
 Here *Baccharis pilularis* is
 something of a pioneer on the
 grassy slopes; but especially
 along the roadway where it
 forms in places a broken hedge
 on either side for several miles.
 I stop near the end of this
 bare ridge to have a view up the
 narrow valley of Bear ^{River} Creek
 eastward. The road goes down to
 this valley and I can see its track
 up the opposite slope ^(Cape Ridge). In the
 valley bottom lies the tiny hamlet
 of Baketown and to the right
 towers the majestic head of Cape
 Mendocino, its top bare, its sides

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covered with bracken, bramble and
 low shrubs. There are also colonies of
Picea sitchensis. As I gain the
 summit of the opposite slope I get
 a good view of its southern side
 covered below with soft brush, a
Picea sitchensis forest lying in the
 little hollows inland.

Soon we descend this
 ridge by a very steep narrow
 road on abrupt hillside to the
 cañon valley of Singley Creek at the
 ocean. One-half mile south I collect:
 No. 17,944. *Grindelia*

Stems several to many from the
 root-crown, or ^(blebbing) chiefly from stocky
 stems $\frac{1}{2}$ to $\frac{3}{4}$ inch thick, these
 either decumbent or erect, 1 to 2
 ft. long. Probably these stocky
 stems arise as sterile leafy shoots
 of some previous season. They

leaves larger than the leaves of flowering shoots. The sterile shoots are quite leafy. The plants are $1\frac{1}{2}$ to $2\frac{1}{2}$ ft. h. Grassy flats by the sea.

No. 17,945. *Angelica*

Sand-dune by sea. Singley Creek; $\frac{1}{2}$ mi. s.

No. 17,946. *Franseria Chamissonis* Less.
ssp. *bipinnatisecta* (Less.) Wiggins & Stockwell
Decumbent mat in flat

by sand-dune, Singley Creek, $\frac{1}{2}$ mi. s.

- *Erechtites prenanthoides*

Capetown

- *Abronia*

The yellow flowered species of the sand-dunes. By sea; $\frac{1}{2}$ mi. s. of Singley Creek.

(Discarded)
No. 17,946 a. "*Lupinus rivularis*"
of Tracy, F.P. Singley Creek.

I leave the coast and turn up a creek cañon. There to my left, before me, rises a high hill, imposing in its ^{height and} mass, splendid in the rich tan of its sides, little gullied or scarred and utterly barren with scarcely even a few bushes in its gullies. It is the Walker Ridge. I climb easterly and then to the right over a divide and then before me southward is Kings Mountain, a lovely country, lying below it, opens, folds, hills and mixed woodlands of fine trees. As I get down in to it I stop the car and drink my soul full of the beautiful hills that lie northward, varied and individual in their charm — three or four of them. I drive on into Petrolia.

No. 17, 947. Rosa

6 ft. h.; many stemmed
bush. Petrolia, $\frac{1}{2}$ mile nw., by road.

It is frequent in the village
along a gully. I note it in
the hills 2 mi. out of Petrolia on
the Etnsburg road.* It has stout
trunk-like stems. It is an erect
shrub not branching much below.

- bytrans scoparium in Petrolia-
run wild.

- The upper Marshall country
has much Umbellularia calif-
ornica - fills gulches on the hills
with rather large trees. There are
many considerable trees in the
valley portion. I noted a clump
of very large crows on right
side of road about 3 mi. before
reaching Petrolia

* Also as far as Honeydew.

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- Honeydew is a postoffice and
store at junction of the road to Scotia
and Ogerville. The road sign says:
Brice land 25 mi.; Garberville, 35 mi.

I climb the very steep zig-zag
to the Wilder Ridge and run along
its crest. It is wonderful as in the
old days. Its groups of broadleaf
win everywhere the admiration of the
eye - their stature, their development,
their robust beauty. It begins to fall
dark before I get off the ridge and
there is no time for leisurely contem-
plation of this enchanting woodland.
Towards the southeasterly end there
are broad bracken-covered opens which
I did not remember from my
trip in 1902, - thirty-four years ago.
I slip down grade and stop to
look at the Council Madrona one
cannot miss it - its breadth

and height of crown occupy so much of the skyline. At 4 ft. and at smallest portion of trunk, it measures 28 feet 6 inches. I do this in the twilight and go on to Briceland, where I stop the night in the school yard, putting my bed on the ground.

— *Eriogonum latifolium* Sm. About Westport and n. to Juan Creek, I noticed on the edge of the cliffs fine plants of this species with the scapes ascending or suberect, arising from a central leafy mat. See p. 84 at *.

It is a cool night and very wet with dew. The next morning I take on gasoline at a grocery store, and inquire if there be any eating place between here and Fort Bragg. The woman who serves me says there is none, but adds that the saloon

across the village street will give me breakfast. I go across and find a rough "beer parlor" and bar in front, and a woman in the kitchen in rear. The man ^(cont. p. 194) — I show the Hermit. Cont. from p. 84. For several successive days I was on the bluffs north of Pudding Creek.

He again came to me, about July 28, and said in a very dignified ^{manner} that he had received in his day great worldly honors, particularly the doctor's degree, from Oxford University. I teased him a bit and found that he knew the colleges at Oxford, as well as those at Cambridge. I told him that I knew both Oxford and Cambridge from sojourns there. He spoke of his age and boasted of his physical soundness. He went to the Willits Fourth-of-July celebration clad in a deer skin, without a hat and with bare legs, thus attracting considerable notice as the "only real hermit in Mendocino County". When I spent the days at Pudding Creek, I saw him each day going into Fort Bragg a mile away on a bicycle!

in the bar says I can have breakfast in about twenty minutes*. I am dubious about the food in such a place but it turns out all-right. I eat with the

— Cont. *Rhamnus* no. 17,762. On account of the size of the leaves and the huge mass of the individual, I associated this with *R. purshiana*. On a moment's reflection this does not seem possible. It is, doubtless, evergreen. It is thick-leaved and like *R. californica* [in ^{same} the size of the leaves. I query: is this the form of Mendocino and Humboldt counties which P. E. F. Perreades (Wellcome Research Laboratories, London) considered intermediate between the two species when he was here in California (about 1901)? — Fort Bragg, August, 1936

* For another account of my journey from Eureka to Fort Bragg see letter to Jas. P. Tracy dated Sept. 5, 1936.

man and his wife who are old settlers and have an interest in the native wild life, Mr. and Mrs. Nate Stanberry. How often I run across, in the back (cont. p. 196)

— Carl Purdy had collectors for years along the Mendocino coast taking up the native lily bulbs says Robert Colquhoun. Considerable feeling developed regarding this practice, and ^{on the part} _{of the public} an ordinance was passed by the Mendocino Board of Supervisors; but no conviction was ever obtained under it, because the District Attorney, altho' he drew up the legislation, said it was unconstitutional. Colquhoun says school boys made pocket money by digging up lily bulbs — one cent apiece! — Aug. 3, 1936. Cont. from p. 136.

country such old-time Anglo-Saxon stock. For breakfast there is oatmeal mush and lots of cream, eggs fried (Cont. p. 197)
 - Mr. O. A. Seasholm of the Union Lumber Co. at Fort Bragg, he who sent me *Potentilla* material, made an herbarium of the plants about Fort Bragg and presented it to the High School. He was disappointed that Miss Hayden, who taught biology in the school, did not take an interest in it by making additions. Miss Hayden, one of my former students, was, however, overworked.

- Everywhere up and down the Mendocino coasts I am struck by the number of small ranches. Often they seem like a village - the houses close together on 2 to 6 acre plots.

cont. from p. 196, third line.
 And a great platter of freshly-caught trout, hot-cakes and syrup, - roughly served but very good. I take on four (Cont. p. 198)
 - The Wedding Picnic Park at Fort Bragg. cf. 133 ante. This story was told me by Mr. Robert Colquhoun.
 - *Beaetothus thyrsiflorus*. Each Woodman on this Mendocino coast invariably apply the name "Blue Blossom" to this species which comes in rankly like a weed after flowering. It eventually dies out, - after gaining maturity. Seed says Mr. Robert Colquhoun, lies dormant in his beds in the nursery for one to two years. If he applies heat to the seed he breaks the dormancy. - Ft. Bragg, July, 1936.
 - High Blue Ridge is a high ridge in a big bend of Big River. See p. 120.

more gallons of gasoline, because I decide to go down the old coast road to Fort Bragg via White-thorn Valley

Cont. from p. 116 at bottom. not smoke, since I am a mountaineer, an alpinist - I have climbed the highest peaks of California, - which probably I could not have done if smoking were one of my likings. Whereupon to my surprise, Herr Stricker said: "I admit smoking affects me unfavorably. When I climb a hill my heart warms me. But it is quite impossible to stop smoking - it would mean an upset I could not go through."

This statement I did not comment upon, but it is strange, after all, that men deliberately pursue something which vitally affects life ^{adversely}. Because, after all, life is all that we have. I have used the word Puritan above. It is unfair to pretend that the Puritans did not en-

joy life. I get off a little after seven. Stansberry* says there was cut near Brice land a Madrone tree that a 7-foot saw would not take. It was cut (with other trees) to favor grazing!!!

joy life. They did enjoy life, but in ways different from the royalists. Their enjoyments were in marked degree intellectual. They took great delight in natural beauty. ^{They enjoyed humor.} It is certain that Oliver Wendall Holmes in the highest degree enjoyed writing:

"I know it is a sin
For me to sit and grin."

* On returning to Berkeley a letter of appreciation was sent Mr. Nathaniel Stansberry, cont. page 200.

- *Xerophyllum tenax*
Garberville, Mrs. E. Fritz, May 1, '35
- *Calypso bulbosa* in fl.
Miranda (w. side South Fork Eel,
in fl. Mrs. E. Fritz, May, '35)
- *Achlys triphylla*. Miranda. May 10, '35
in fl. Mrs. E. Fritz.
- ✓ *Collomia grandiflora* - Philipaville.
Mrs. E. Fritz, in fl. June 23, '34.

- Cont. from p. 199 at bottom.
My letter to them I do not find
in the file, but an account of
my visit to them is in a letter to
J. P. Tracy, Jackson Corresp. 39:859.
(Sept. 1, 1942).

- ✓ *Populus trichocarpa* var. *has-*
tata - "N. Cal." - acc. Sudworth,
"Poplars, Principal Tree Willows and
Walnuts of the Rocky Mt. Region",
- U. S. Dept. Agr. Tech. Bull. 240.
(1934). Cf. The Timberman, June,
1935, p. 15, vol. 36.
- Western White Pine (*Pinus mont-*
icola). American Forester, p. 76,
v. 41. Feb. 1935. Mainly economic.

Field Memoranda

- Mrs. Frances Davis, Tres Pinos
(of the Baladi Family).
- Freeman Art Co., Eureka.
- Lawrence Wilson, Wolfkill Ranch.

Humboldt Co.

- Stansberry, Mr. and Mrs. Nate,
Orickland. See p. 195.

202. Addressees - St. Helena Sanitarium

- Jos. Rubens, the old-time barber.
- McNamara, shoe-man (Buckingham Hecht & Co.)
- Mrs. Winifred Lindsay, dietitian.
- J.K. Oliver, old-time curio dealer at Monterey. (knew Harry Greene, Dr. E.K. ¹⁸⁸⁴⁻⁸⁵)
- W. A. Bobst, Manager, Sanitarium.
- Adventist Sanitarium near London: Stoneborough Park, Watford.

Fort Bragg (Union Lumber Co)

- Dr. P. J. Bowman, Fort Bragg Hos-
- "Emma", the maid at the ^{hospital} Great House.
- Walter Ball, foreman in the ^{Mendocino woods} Great House.
- A.W. Stricker, Redwood Export Co., S.F.
- Archie Colquhoun, son of Robert Colquhoun.

Fort Bragg (Union Lumber Co)

- M.
- (Dana → Gray, Manager Union Lumber Co.
- Robert Calhoun, in charge "Nursery".
His name is spelled Colquhoun. He pronounces it as if it were Colhoun.
- Mr. & Mrs. Charles Russell Johnson (Mrs. Johnson is now dead); their son Otis Johnson is now here and his daughter Charlotte and son Charles Russell Johnson (c. aet. 18) and niece of Otis, Marion Summers.
- Clarence Broback, one of the Union Lumber Co's main force.
- Elber Montgomery, woods man and cruiser, Union Lumber Co.
- Mrs. May Swales, hostess at the Great House, Union Lumber Co.